



Cam Units CLK  
Schieber CLK  
Unità a Camme CLK

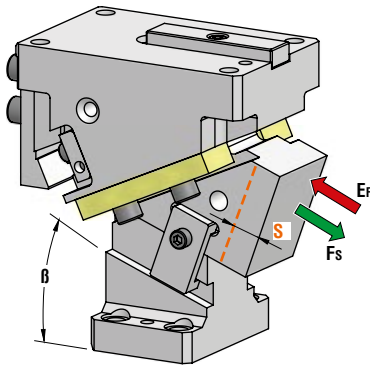
**MCR**<sup>®</sup>  
STANDARD DIE COMPONENTS

| OMCR CODE | Work Angle | Slider Width (mm) | Closed Cam Height (mm) | Work Area W x H (mm) | Max Work Force with shoulder 10 <sup>6</sup> cycles (kN) | Extraction Force (kN) | Page number |
|-----------|------------|-------------------|------------------------|----------------------|--|-----------------------|-------------|
|           | $\beta$    |                   |                        |                      | F <sub>s</sub>   | F <sub>e</sub>        |             |
| CLK065    | 0÷70°      | 65                | 210                    | 65 x "F"             | 39÷58  | 0,32÷0,85             | 836         |
| CLK100    | 0÷70°      | 100               | 280                    | 100 x "F"            | 87÷96  | 1÷2,29                | 840         |
| CLK200    | 0÷70°      | 200               | 280                    | 200 x "F"            | 193÷231  | 1,98÷4,59             | 844         |



Dynamic technical staff and advanced design methods

## AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA



P.605

| OMCR CODE | Work Angle<br>$\beta$ | Max Stroke (mm)<br><b>S</b> | Max Work Force with shoulder (kN)<br><b>F<sub>s</sub></b> | Extraction Force (kN)          |
|-----------|-----------------------|-----------------------------|---|--------------------------------|
|           |                       |                             |   | <b>E<sub>f</sub></b><br>Spring |
| CLK065.00 | 0°                    | 26,87                       | 39  | 0,79                           |
| CLK065.05 | 5°                    | 26,97                       | 39  | 0,77                           |
| CLK065.10 | 10°                   | 31,61                       | 39  | 0,85                           |
| CLK065.15 | 15°                   | 32,23                       | 39  | 0,77                           |
| CLK065.20 | 20°                   | 33,76                       | 39  | 0,85                           |
| CLK065.25 | 25°                   | 35                          | 39  | 0,77                           |
| CLK065.30 | 30°                   | 33,46                       | 46  | 0,85                           |
| CLK065.35 | 35°                   | 35,38                       | 46  | 0,77                           |
| CLK065.40 | 40°                   | 42,91                       | 46  | 0,85                           |
| CLK065.45 | 45°                   | 46,49                       | 46  | 0,77                           |
| CLK065.50 | 50°                   | 54,45                       | 58  | 0,77                           |
| CLK065.55 | 55°                   | 43,59                       | 58  | 0,62                           |
| CLK065.60 | 60°                   | 50                          | 58  | 0,54                           |
| CLK065.65 | 65°                   | 47,32                       | 58  | 0,39                           |
| CLK065.70 | 70°                   | 58,48                       | 58  | 0,32                           |

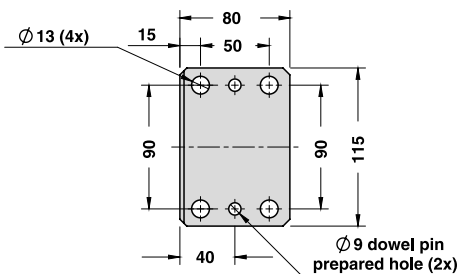
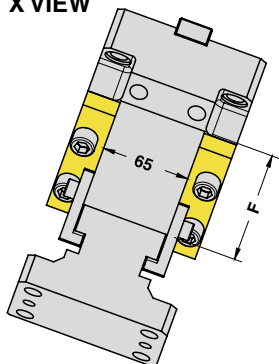


|        |                 |
|--------|-----------------|
| Art.   | Work Angle = 5° |
| CLK065 | 05              |

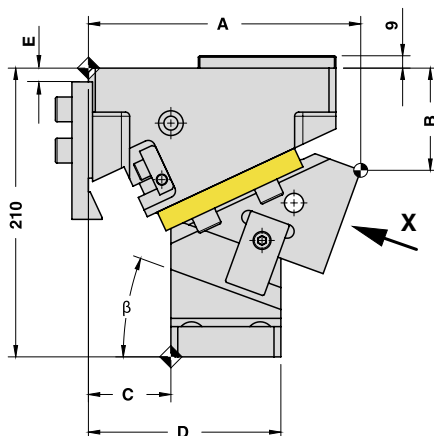
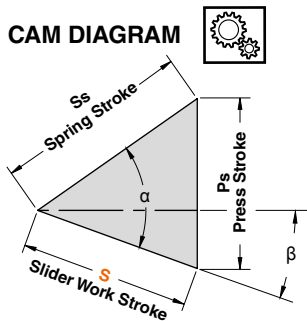
| OMCR CODE | Work Angle<br>$\beta$ | Overall Dimensions (mm) |        |    |     |    |     |
|-----------|-----------------------|-------------------------|--------|----|-----|----|-----|
|           |                       | A                       | B      | C  | D   | E  | F   |
| CLK065.00 | 0°                    | 185,94                  | 56,57  | 75 | 155 | 55 | 80  |
| CLK065.05 | 5°                    | 193,01                  | 56,57  | 70 | 150 | 55 | 90  |
| CLK065.10 | 10°                   | 196,80                  | 67,58  | 70 | 150 | 40 | 80  |
| CLK065.15 | 15°                   | 203,77                  | 68,81  | 67 | 147 | 40 | 90  |
| CLK065.20 | 20°                   | 198,10                  | 74,31  | 60 | 140 | 10 | 80  |
| CLK065.25 | 25°                   | 204,75                  | 76,73  | 55 | 135 | 10 | 90  |
| CLK065.30 | 30°                   | 193,63                  | 89,52  | 50 | 130 | 10 | 80  |
| CLK065.35 | 35°                   | 199,76                  | 93,06  | 45 | 125 | 10 | 90  |
| CLK065.40 | 40°                   | 188,72                  | 99,62  | 40 | 120 | 15 | 80  |
| CLK065.45 | 45°                   | 194,13                  | 104,16 | 34 | 114 | 15 | 90  |
| CLK065.50 | 50°                   | 190                     | 110    | 30 | 110 | 10 | 90  |
| CLK065.55 | 55°                   | 190                     | 115    | 20 | 100 | 10 | 100 |
| CLK065.60 | 60°                   | 190                     | 115    | 20 | 100 | 10 | 100 |
| CLK065.65 | 65°                   | 190                     | 130    | 0  | 80  | 10 | 110 |
| CLK065.70 | 70°                   | 190                     | 130    | 0  | 80  | 10 | 110 |

AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA

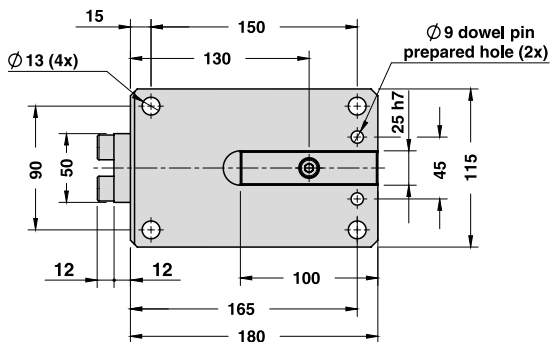
X VIEW



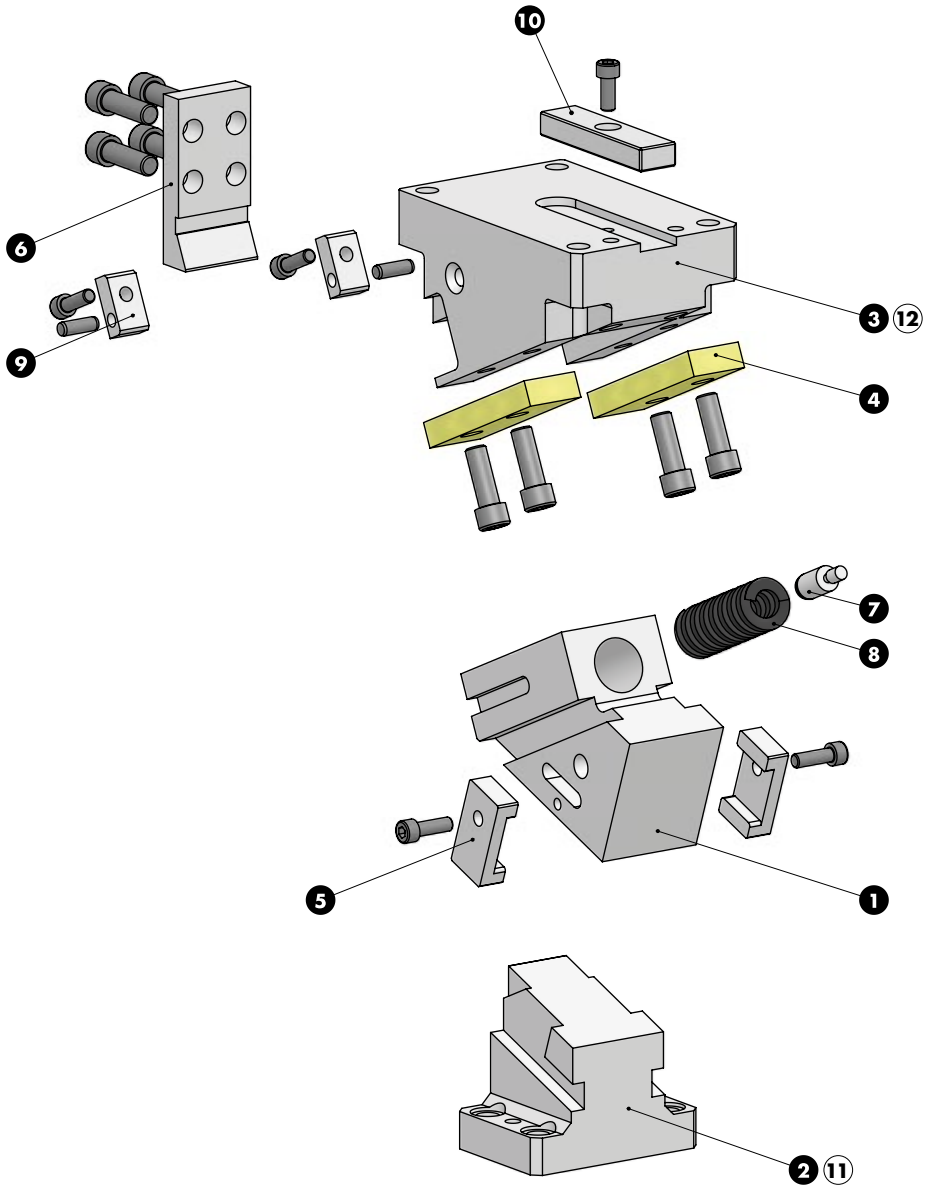
CAM DIAGRAM



| Work Angle | Inner Angle | Slider Work Stroke (mm) | Press Stroke (mm) | Spring Stroke (mm) |
|------------|-------------|-------------------------|-------------------|--------------------|
| $\beta$    | $\alpha$    | S                       | Ps                | Ss                 |
| 0°         | 45°         | 26,87                   | 26,87             | 38                 |
| 5°         | 50°         | 26,97                   | 29,22             | 38                 |
| 10°        | 45°         | 31,61                   | 27,28             | 38                 |
| 15°        | 50°         | 32,23                   | 30,14             | 38                 |
| 20°        | 45°         | 33,76                   | 26,34             | 35                 |
| 25°        | 50°         | 35,00                   | 29,58             | 35                 |
| 30°        | 45°         | 33,46                   | 24,49             | 30                 |
| 35°        | 50°         | 35,38                   | 28,06             | 30                 |
| 40°        | 45°         | 42,91                   | 30,46             | 33                 |
| 45°        | 50°         | 46,49                   | 35,75             | 33                 |
| 50°        | 50°         | 54,45                   | 41,71             | 35                 |
| 55°        | 55°         | 43,59                   | 35,70             | 25                 |
| 60°        | 60°         | 50,00                   | 43,30             | 25                 |
| 65°        | 65°         | 47,32                   | 42,89             | 20                 |
| 70°        | 70°         | 58,48                   | 54,95             | 20                 |

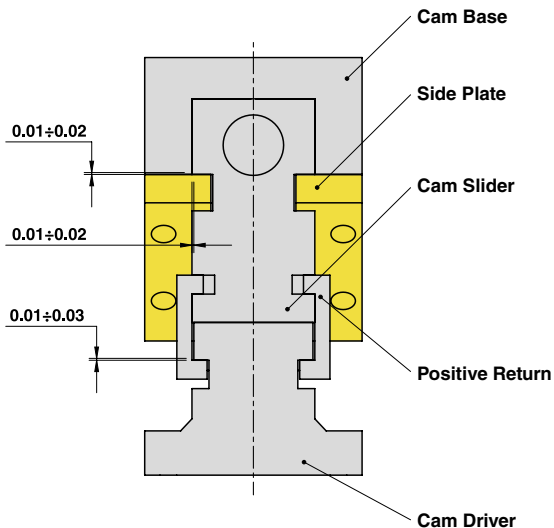


AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA



**AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA**

**SLIDER STRUCTURE, POSITIVE RETURN STRUCTURE AND CLEARANCES**

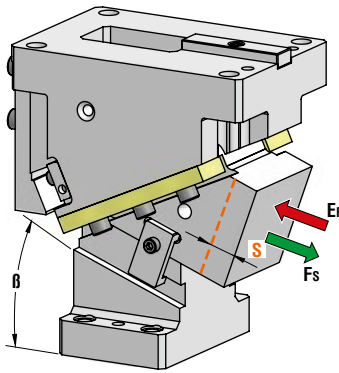


Cam Units CLK

**PART LIST**

| Particular number | Description                             | Material                        | Quantity |
|-------------------|---|---------------------------------|----------|
| 1                 | Cam Slider                              | GG-25 + Graphite                | 1        |
| 2                 | Cam Driver                              | GG-25 + Graphite                | 1        |
| 3                 | Cam Base                                | GG-25                           | 1        |
| 4                 | Side Plate                              | CuZn25Al5 + Graphite - HB > 190 | 2        |
| 5                 | Positive Return                         | CK45                            | 2        |
| 6                 | Stopper Plate                           | St44                            | 1        |
| 7                 | Spring Guide Pin                        | 34CrMo4                         | 1        |
| 8                 | Spring                                  | -                               | 1        |
| 9                 | Plate                                   | CK45                            | 2        |
| 10                | Key                                     | CK45                            | 1        |
| 11                | Cam Driver Fixing Screws M12x45 DIN 912 | -                               | 4        |
| 12                | Cam Base Fixing Screws M12x55 DIN 912   | -                               | 4        |

## AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA



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| OMCR CODE | Work Angle<br>$\beta$ | Max Stroke (mm)<br><b>S</b> | Max Work Force with shoulder (kN)<br><b>F<sub>s</sub></b> | Extraction Force (kN)          |
|-----------|-----------------------|-----------------------------|---|--------------------------------|
|           |                       |                             |   | <b>E<sub>f</sub></b><br>Spring |
| CLK100.00 | 0°                    | 28,28                       | 87  | 2,10                           |
| CLK100.05 | 5°                    | 28,39                       | 87  | 2,09                           |
| CLK100.10 | 10°                   | 33,27                       | 87  | 2,29                           |
| CLK100.15 | 15°                   | 33,92                       | 87  | 2,09                           |
| CLK100.20 | 20°                   | 30,86                       | 87  | 2,23                           |
| CLK100.25 | 25°                   | 32                          | 87  | 2,03                           |
| CLK100.30 | 30°                   | 33,46                       | 87  | 2,10                           |
| CLK100.35 | 35°                   | 35,38                       | 87  | 1,91                           |
| CLK100.40 | 40°                   | 39,01                       | 87  | 2,10                           |
| CLK100.45 | 45°                   | 42,26                       | 87  | 1,91                           |
| CLK100.50 | 50°                   | 46,67                       | 96  | 1,91                           |
| CLK100.55 | 55°                   | 52,30                       | 96  | 1,70                           |
| CLK100.60 | 60°                   | 60                          | 96  | 1,48                           |
| CLK100.65 | 65°                   | 47,32                       | 96  | 1,22                           |
| CLK100.70 | 70°                   | 58,48                       | 96  | 1                              |

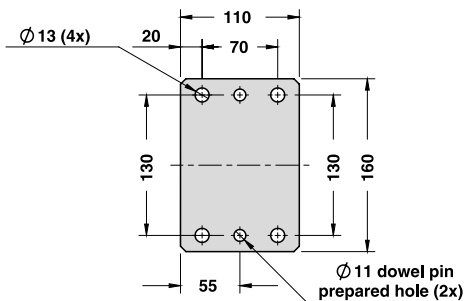
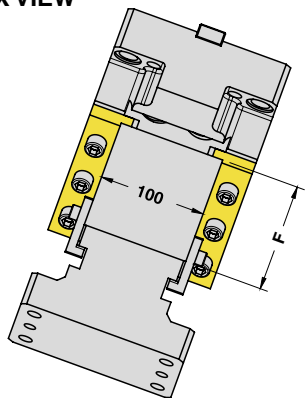


|        |                 |
|--------|-----------------|
| Art.   | Work Angle = 5° |
| CLK100 | 05              |

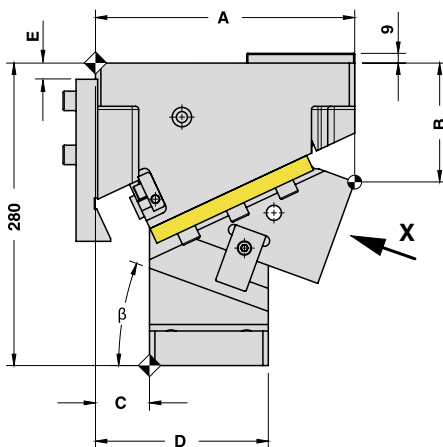
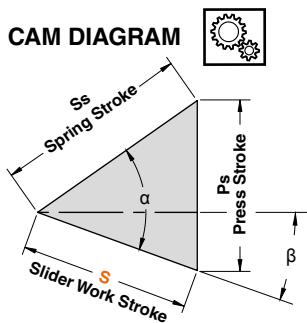
| OMCR CODE | Work Angle<br>$\beta$ | Overall Dimensions (mm) |        |    |     |    |     |    |
|-----------|-----------------------|-------------------------|--------|----|-----|----|-----|----|
|           |                       | A                       | B      | C  | D   | E  | F   | G  |
| CLK100.00 | 0°                    | 240                     | 85     | 60 | 170 | 55 | 100 | 17 |
| CLK100.05 | 5°                    | 236,89                  | 73,82  | 60 | 170 | 55 | 140 | 17 |
| CLK100.10 | 10°                   | 240                     | 90     | 60 | 170 | 35 | 100 | 17 |
| CLK100.15 | 15°                   | 254,35                  | 81,51  | 60 | 170 | 35 | 140 | 17 |
| CLK100.20 | 20°                   | 240                     | 110    | 50 | 160 | 15 | 100 | 18 |
| CLK100.25 | 25°                   | 253,26                  | 102,6  | 50 | 160 | 15 | 140 | 18 |
| CLK100.30 | 30°                   | 240                     | 110    | 30 | 140 | 10 | 120 | 17 |
| CLK100.35 | 35°                   | 252,34                  | 109,69 | 30 | 140 | 10 | 140 | 17 |
| CLK100.40 | 40°                   | 240                     | 115    | 30 | 140 | 10 | 120 | 17 |
| CLK100.45 | 45°                   | 247,41                  | 114,68 | 30 | 140 | 10 | 140 | 17 |
| CLK100.50 | 50°                   | 240                     | 120    | 10 | 120 | 10 | 140 | 16 |
| CLK100.55 | 55°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 |
| CLK100.60 | 60°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 |
| CLK100.65 | 65°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 |
| CLK100.70 | 70°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 |

AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA

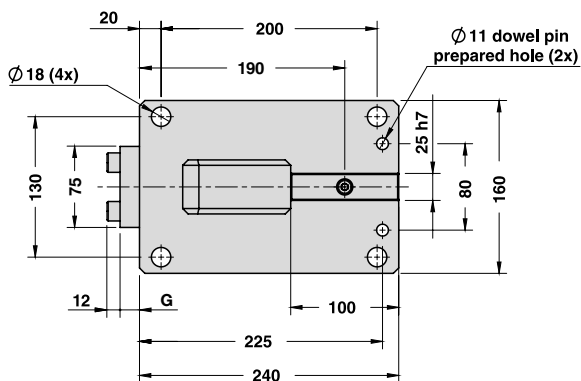
X VIEW



CAM DIAGRAM

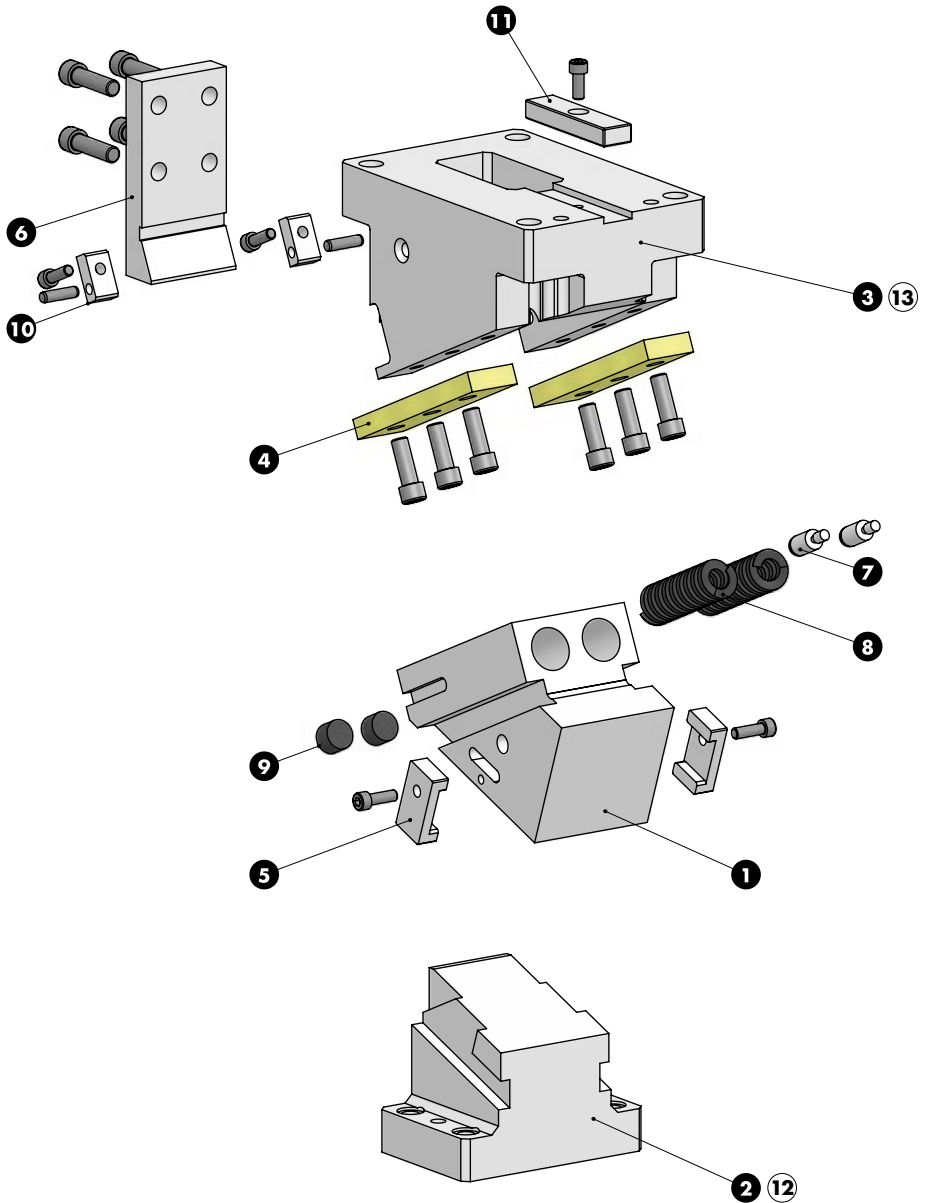


| Work Angle | Inner Angle | Slider Work Stroke (mm) | Press Stroke (mm) | Spring Stroke (mm) |
|------------|-------------|-------------------------|-------------------|--------------------|
| $\beta$    | $\alpha$    | S                       | Ps                | Ss                 |
| 0°         | 45°         | 28,28                   | 28,28             | 40                 |
| 5°         | 50°         | 28,39                   | 30,76             | 40                 |
| 10°        | 45°         | 33,27                   | 28,72             | 40                 |
| 15°        | 50°         | 33,92                   | 31,72             | 40                 |
| 20°        | 45°         | 30,86                   | 24,08             | 32                 |
| 25°        | 50°         | 32,00                   | 27,05             | 32                 |
| 30°        | 45°         | 33,46                   | 24,49             | 30                 |
| 35°        | 50°         | 35,38                   | 28,06             | 30                 |
| 40°        | 45°         | 39,01                   | 27,69             | 30                 |
| 45°        | 50°         | 42,26                   | 32,50             | 30                 |
| 50°        | 50°         | 46,67                   | 35,75             | 30                 |
| 55°        | 55°         | 52,30                   | 42,84             | 30                 |
| 60°        | 60°         | 60,00                   | 51,96             | 30                 |
| 65°        | 65°         | 47,32                   | 42,89             | 20                 |
| 70°        | 70°         | 58,48                   | 54,95             | 20                 |



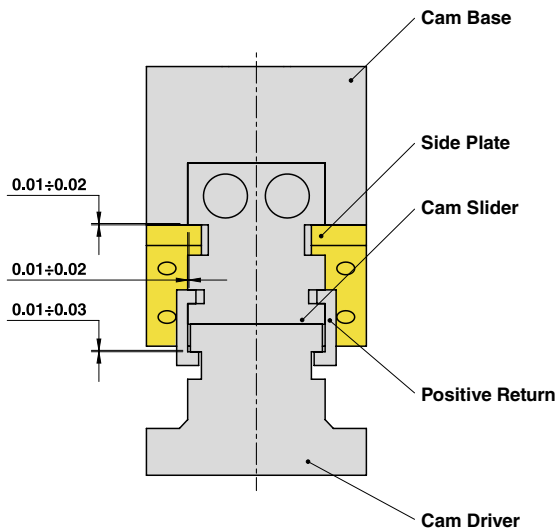


AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA



**AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA**

**SLIDER STRUCTURE, POSITIVE RETURN STRUCTURE AND CLEARANCES**

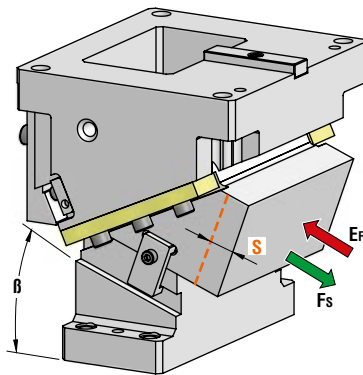


Cam Units CLK

**PART LIST**

| Particular number | Description                             | Material                        | Quantity |
|-------------------|---|---------------------------------|----------|
| 1                 | Cam Slider                              | GG-25 + Graphite                | 1        |
| 2                 | Cam Driver                              | GG-25 + Graphite                | 1        |
| 3                 | Cam Base                                | GG-25                           | 1        |
| 4                 | Side Plate                              | CuZn25Al5 + Graphite - HB > 190 | 2        |
| 5                 | Positive Return                         | CK45                            | 2        |
| 6                 | Stopper Plate                           | St44                            | 1        |
| 7                 | Spring Guide Pin                        | 34CrMo4                         | 2        |
| 8                 | Spring                                  | -                               | 2        |
| 9                 | Elastomer Cap                           | Elastomer 92SH                  | 2        |
| 10                | Plate                                   | CK45                            | 2        |
| 11                | Key                                     | CK45                            | 1        |
| 12                | Cam Driver Fixing Screws M12x55 DIN 912 | -                               | 4        |
| 13                | Cam Base Fixing Screws M16x70 DIN 912   | -                               | 4        |

## AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA



P.605

| OMCR CODE | Work Angle<br>$\beta$ | Max Stroke (mm)<br><b>S</b> | Max Work Force with shoulder (kN)<br><b>F<sub>s</sub></b> | Extraction Force (kN)          |
|-----------|-----------------------|-----------------------------|---|--------------------------------|
|           |                       |                             |   | <b>E<sub>f</sub></b><br>Spring |
| CLK200.00 | 0°                    | 28,28                       | 193   | 4,21                           |
| CLK200.05 | 5°                    | 28,39                       | 193   | 4,17                           |
| CLK200.10 | 10°                   | 33,27                       | 193   | 4,59                           |
| CLK200.15 | 15°                   | 33,92                       | 193   | 4,17                           |
| CLK200.20 | 20°                   | 30,86                       | 193   | 4,46                           |
| CLK200.25 | 25°                   | 32                          | 193   | 4,05                           |
| CLK200.30 | 30°                   | 33,46                       | 193   | 4,20                           |
| CLK200.35 | 35°                   | 35,38                       | 193   | 3,81                           |
| CLK200.40 | 40°                   | 39,01                       | 193   | 4,20                           |
| CLK200.45 | 45°                   | 42,26                       | 193   | 3,81                           |
| CLK200.50 | 50°                   | 46,67                       | 231   | 3,81                           |
| CLK200.55 | 55°                   | 52,30                       | 231   | 3,40                           |
| CLK200.60 | 60°                   | 60                          | 231   | 2,97                           |
| CLK200.65 | 65°                   | 47,32                       | 231   | 2,45                           |
| CLK200.70 | 70°                   | 58,48                       | 231   | 1,98                           |

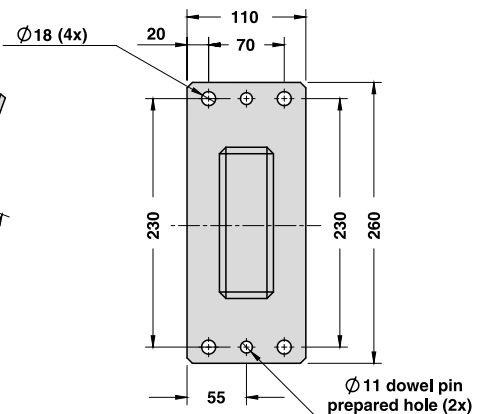
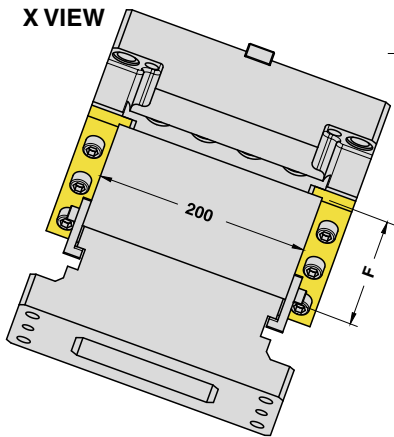


|        |                 |
|--------|-----------------|
| Art.   | Work Angle = 5° |
| CLK200 | 05              |

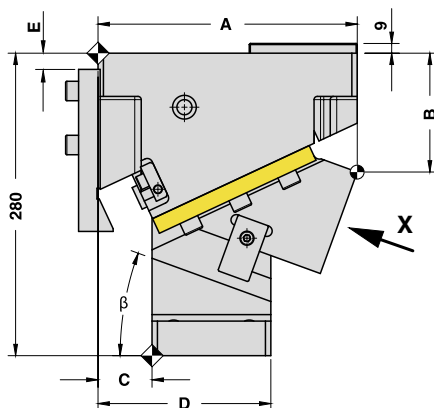
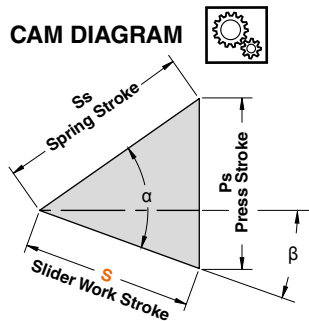
| OMCR CODE | Work Angle<br>$\beta$ | Overall Dimensions (mm) |        |    |     |    |     |    |     |
|-----------|-----------------------|-------------------------|--------|----|-----|----|-----|----|-----|
|           |                       | A                       | B      | C  | D   | E  | F   | G  | H   |
| CLK200.00 | 0°                    | 240                     | 90     | 60 | 170 | 60 | 100 | 17 | 190 |
| CLK200.05 | 5°                    | 236,82                  | 78,84  | 60 | 170 | 60 | 130 | 17 | 190 |
| CLK200.10 | 10°                   | 240                     | 90     | 60 | 170 | 35 | 100 | 17 | 150 |
| CLK200.15 | 15°                   | 254,35                  | 81,51  | 60 | 170 | 35 | 130 | 17 | 150 |
| CLK200.20 | 20°                   | 240                     | 110    | 50 | 160 | 15 | 100 | 18 | 150 |
| CLK200.25 | 25°                   | 253,27                  | 102,6  | 50 | 160 | 15 | 130 | 18 | 150 |
| CLK200.30 | 30°                   | 240                     | 110    | 30 | 140 | 10 | 120 | 17 | 150 |
| CLK200.35 | 35°                   | 252,34                  | 109,69 | 30 | 140 | 10 | 140 | 17 | 150 |
| CLK200.40 | 40°                   | 240                     | 115    | 30 | 140 | 10 | 120 | 17 | 150 |
| CLK200.45 | 45°                   | 247,41                  | 114,68 | 30 | 140 | 10 | 140 | 17 | 150 |
| CLK200.50 | 50°                   | 240                     | 120    | 10 | 120 | 10 | 140 | 16 | 150 |
| CLK200.55 | 55°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 | 150 |
| CLK200.60 | 60°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 | 150 |
| CLK200.65 | 65°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 | 150 |
| CLK200.70 | 70°                   | 240                     | 145    | 0  | 110 | 10 | 140 | 16 | 150 |

AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA

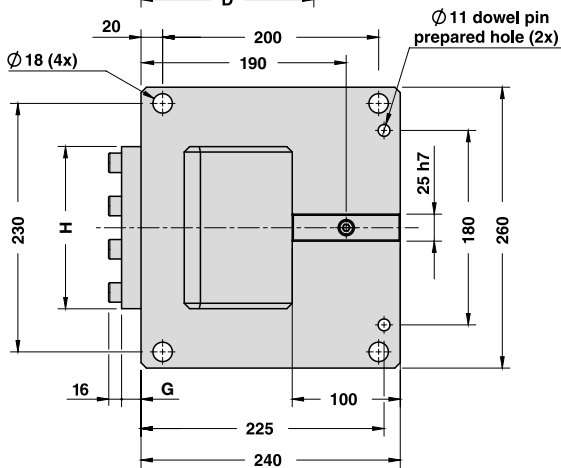
X VIEW



CAM DIAGRAM

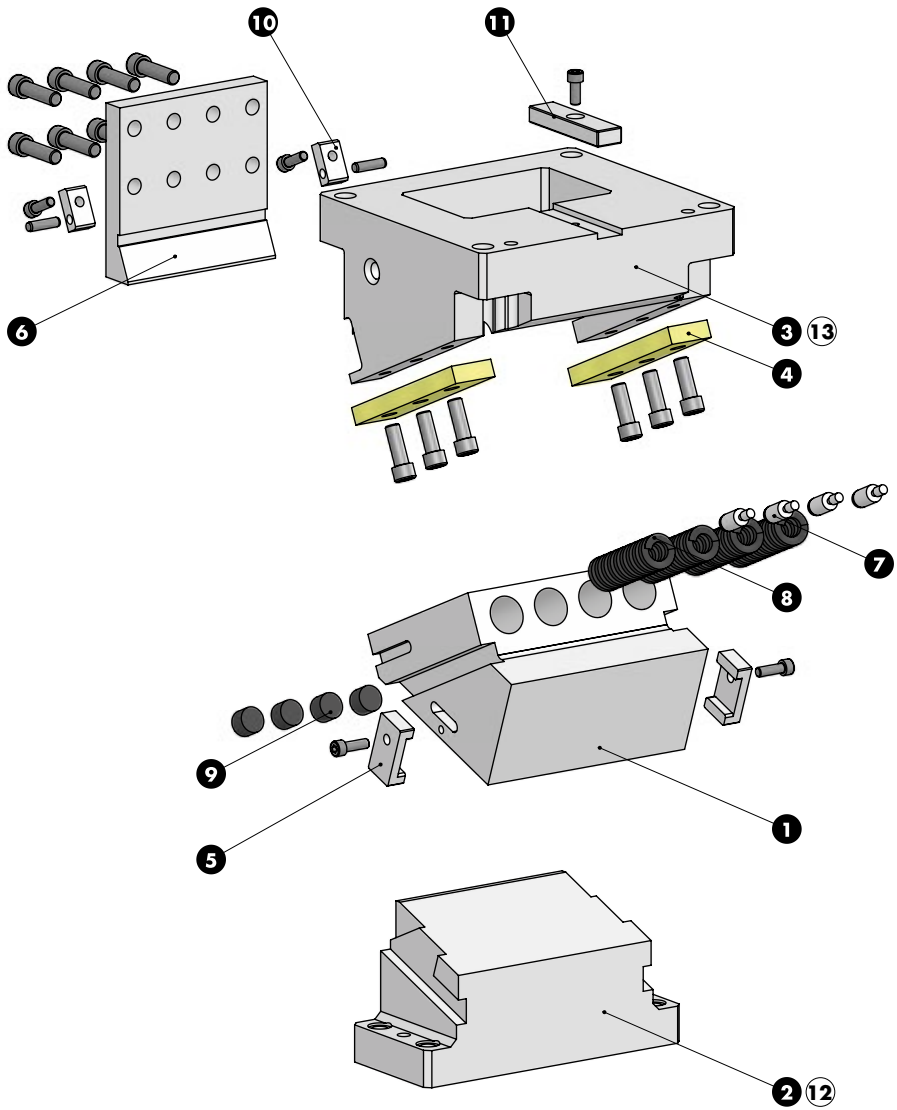


| Work Angle | Inner Angle | Slider Work Stroke (mm) | Press Stroke (mm) | Spring Stroke (mm) |
|------------|-------------|-------------------------|-------------------|--------------------|
| $\beta$    | $\alpha$    | S                       | Ps                | Ss                 |
| 0°         | 45°         | 28,28                   | 28,28             | 40                 |
| 5°         | 50°         | 28,39                   | 30,76             | 40                 |
| 10°        | 45°         | 33,27                   | 28,72             | 40                 |
| 15°        | 50°         | 33,92                   | 31,72             | 40                 |
| 20°        | 45°         | 30,86                   | 24,08             | 32                 |
| 25°        | 50°         | 32,00                   | 27,05             | 32                 |
| 30°        | 45°         | 33,46                   | 24,49             | 30                 |
| 35°        | 50°         | 35,38                   | 28,06             | 30                 |
| 40°        | 45°         | 39,01                   | 27,69             | 30                 |
| 45°        | 50°         | 42,26                   | 32,50             | 30                 |
| 50°        | 50°         | 46,67                   | 35,75             | 30                 |
| 55°        | 55°         | 52,30                   | 42,84             | 30                 |
| 60°        | 60°         | 60,00                   | 51,96             | 30                 |
| 65°        | 65°         | 47,32                   | 42,89             | 20                 |
| 70°        | 70°         | 58,48                   | 54,95             | 20                 |



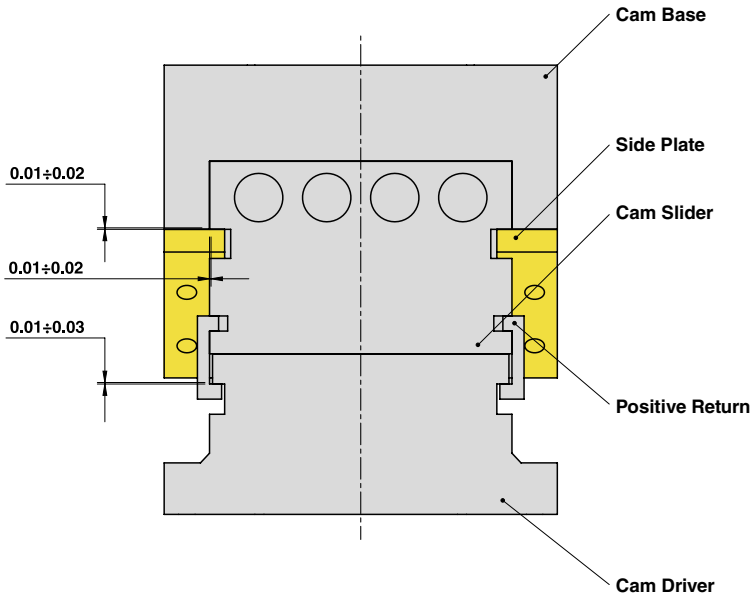
Cam Units CLK

AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA



**AERIAL CAM UNIT - OBEN HÄNGENDER SCHIEBER - UNITÀ A CAMME SOSPESA**

**SLIDER STRUCTURE, POSITIVE RETURN STRUCTURE AND CLEARANCES**



Cam Units CLK

**PART LIST**

| Particular number | Description                             | Material                        | Quantity |
|-------------------|---|---------------------------------|----------|
| 1                 | Cam Slider                              | GG-25 + Graphite                | 1        |
| 2                 | Cam Driver                              | GG-25 + Graphite                | 1        |
| 3                 | Cam Base                                | GG-25                           | 1        |
| 4                 | Side Plate                              | CuZn25Al5 + Graphite - HB > 190 | 2        |
| 5                 | Positive Return                         | CK45                            | 2        |
| 6                 | Stopper Plate                           | St44                            | 1        |
| 7                 | Spring Guide Pin                        | 34CrMo4                         | 4        |
| 8                 | Spring                                  | -                               | 4        |
| 9                 | Elastomer Cap                           | Elastomer 92SH                  | 4        |
| 10                | Plate                                   | CK45                            | 2        |
| 11                | Key                                     | CK45                            | 1        |
| 12                | Cam Driver Fixing Screws M16x60 DIN 912 | -                               | 4        |
| 13                | Cam Base Fixing Screws M16x70 DIN 912   | -                               | 4        |