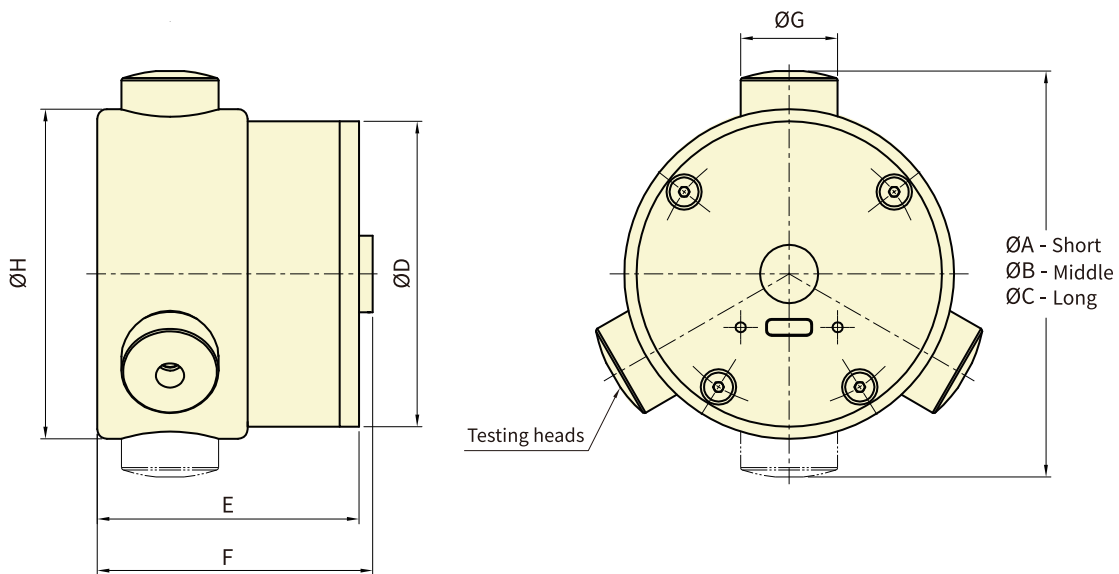




- **Stable Bluetooth 5.0 Transmission:** Equipped with the latest Bluetooth 5.0 technology, ensuring stability in wireless connections.
- **Convenient Type-C Charging:** Supports Type-C charging for added convenience in recharging.
- **High-Performance Lithium Battery:** Provides a longer-lasting battery life, eliminating concerns about power during work.
- **Supports Android and iOS:** Whether you use Android or iOS systems, the GFS-100 is perfectly compatible, offering a seamless experience.
- **Configurable for 2-Jaw or 3-Jaw Operation:** Based on your specific needs, the GFS-100 can easily be configured for either 2-jaw or 3-jaw operation, providing greater flexibility.
- **Note:** The first-generation gripping force sensor (GFS-100) and the second-generation gripping force sensor (GFS-100) APP are not compatible and cannot be used interchangeably.
- **iOS System:** Apple iOS 16.1.2.
- **Android System:** Android version 12.



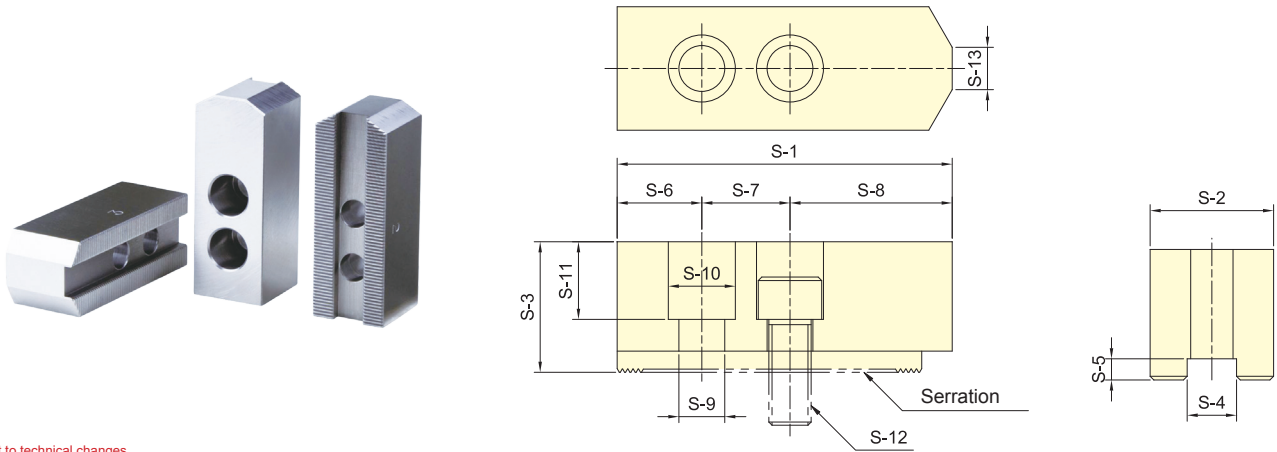
Subject to technical changes

SPECIFICATIONS

| Model | Max. Load (1-jaw) | Max. Speed | Gripping range | Accuracy |
|----------------|-------------------|------------|----------------|----------|
| | (kN) | (r.p.m.) | (mm) | |
| GFS-100 | 100 | 6000 | 70 , 84 , 104 | ± 2% |

DIMENSIONS

| Model | A | B | C | D | E | F | G | H |
|----------------|----|----|-----|----|----|----|----|----|
| GFS-100 | 70 | 84 | 104 | 63 | 54 | 57 | 20 | 68 |



Subject to technical changes

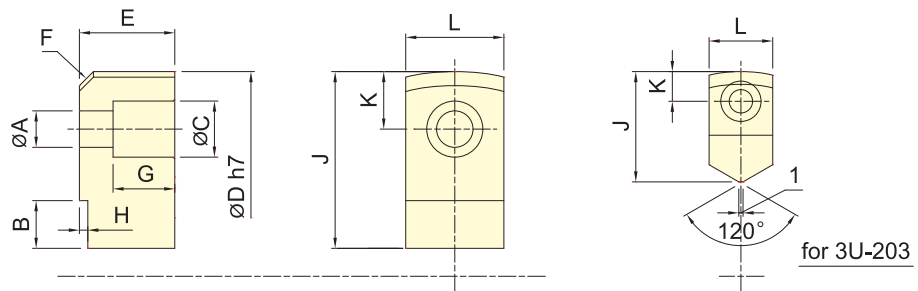
DIMENSIONS

| MODEL | S-1 | S-2 | S-3 | S-4 | S-5 | S-6 | S-7 | S-8 | S-9 | S-10 | S-11 | S-12 | S-13 | Serration Pitch | Matching Chuck | 3 Jaw Weight |
|----------------|-----|-----|-----|------|-----|-----|-----|-----|-----|------|------|------|------|-----------------|---|--------------|
| | | | | | | | | | | | | | | | | kg |
| SJ-04 | 52 | 23 | 23 | 10 | 5 | 10 | 14 | 28 | 9 | 14 | 13 | M8 | 3 | 1.5 × 60° | 3H-204, 3P-04 | 0.5 |
| SJ-05 | 62 | 25 | 30 | 10 | 5 | 10 | 14 | 38 | 9 | 14 | 20 | M8 | 3.5 | 1.5 × 60° | 3H-205, 3L-205, 3P-05, 3M-05 | 0.8 |
| SJ-06 | 73 | 31 | 36 | 12 | 5 | 15 | 20 | 38 | 11 | 17 | 24 | M10 | 14 | 1.5 × 60° | 3H-206, 3L-206, 3P-06, 3M-06 | 1.5 |
| SJ-08 | 95 | 35 | 37 | 14 | 5 | 24 | 25 | 46 | 13 | 19 | 22 | M12 | 16 | 1.5 × 60° | 3H-208, 3L-208, 3P-08, 3M-08 | 2.4 |
| SJ-10 | 110 | 40 | 42 | 16 | 5 | 30 | 30 | 50 | 13 | 19 | 27 | M12 | 18 | 1.5 × 60° | 3H-210, 3L-210, 3P-10, 3M-10 | 3.7 |
| *SJ-12H | 130 | 50 | 50 | 21 | 5 | 40 | 30 | 60 | 17 | 25 | 30 | M16 | 23 | 1.5 × 60° | 3H-12, 3H-212, 3L-212, 3V-12, 3P-12, 3M-12 | 6.3 |
| SJ-12P | 130 | 50 | 50 | 18 | 5 | 40 | 30 | 60 | 16 | 23 | 30 | M14 | 23 | 1.5 × 60° | 3H-12, 3H-212, 3L-212, 3V-12, 3P-12, 3M-12 | 6.5 |
| SJ-15H | 165 | 62 | 62 | 22 | 8 | 37 | 43 | 85 | 21 | 32 | 37 | M20 | - | 1.5 × 60° | 3H-15, 3H-215, 3H-18, 3L-15, 3P-215, 3P-218, 3V-15, 3V-18 | 12.6 |
| *SJ-15P | 165 | 62 | 62 | 25.5 | 6 | 37 | 43 | 85 | 21 | 32 | 37 | M20 | - | 1.5 × 60° | 3H-15, 3H-215, 3H-18, 3L-15, 3P-215, 3P-218, 3V-15, 3V-18 | 12.5 |
| SJ-21 | 180 | 64 | 70 | 25 | 9 | 40 | 60 | 80 | 21 | 32 | 45 | M20 | - | 3.0 × 60° | 3H-221, 3H-224, 3H-232, 3P-221, 3P-224, 3V-21, 3V-24, 3V-32 | 15.8 |

* 12" Chucks are originally equipped with SJ-12H.

* 15" Chucks are originally equipped with SJ-15P.

STANDARD SOFT JAW FOR 3U CHUCK

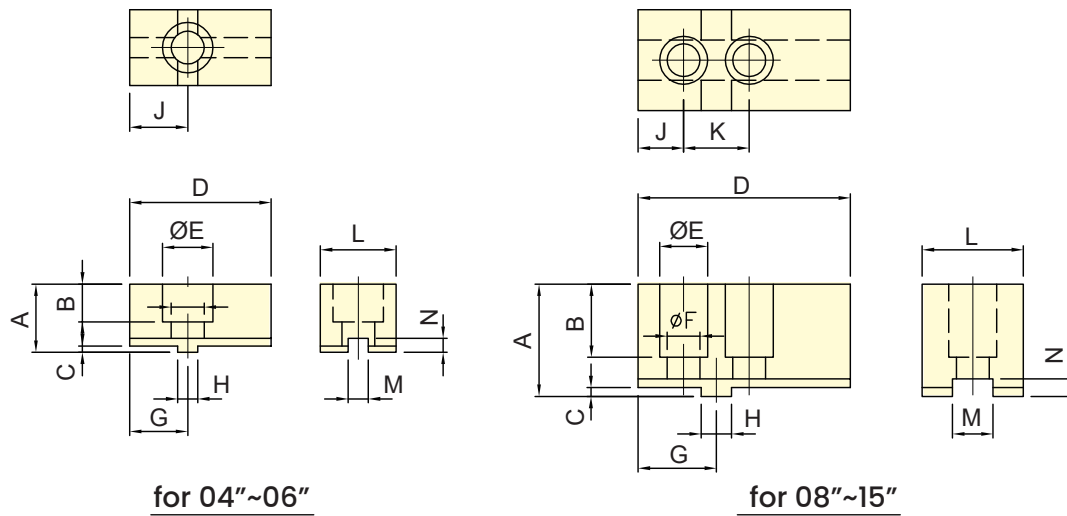


Subject to technical changes

DIMENSIONS

| MODEL | A | B | C | D | E | F | G | H | J | K | L |
|---------------|-----|------|-----|-----|----|----|----|---|------|------|----|
| 3U-203 | 5.5 | 11 | 9.5 | 66 | 12 | C3 | 7 | 3 | 26 | 7 | 15 |
| 3U-204 | 6.6 | 11 | 11 | 84 | 17 | C4 | 11 | 3 | 32 | 9.5 | 20 |
| 3U-205 | 9 | 13.5 | 14 | 108 | 20 | C4 | 12 | 3 | 41.5 | 13 | 24 |
| 3U-206 | 11 | 15 | 17 | 129 | 30 | C6 | 20 | 3 | 50 | 17 | 30 |
| 3U-208 | 13 | 17 | 20 | 156 | 34 | C6 | 22 | 3 | 63 | 20.5 | 35 |
| 3U-210 | 15 | 20 | 22 | 187 | 39 | C6 | 24 | 4 | 74 | 23 | 40 |
| 3U-212 | 15 | 18 | 22 | 234 | 44 | C6 | 29 | 4 | 72 | 23 | 40 |

STANDARD SOFT JAW FOR 2D/3D CHUCK

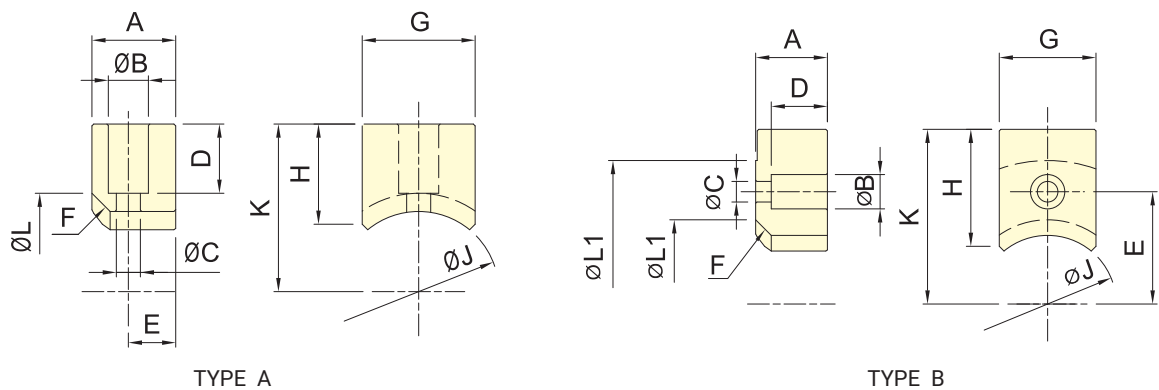


Subject to technical changes

DIMENSIONS

| MODEL | A | B | C | D | E | F | G | H | J | K | L | M | N |
|-------|------|----|-----|-----|------|------|----|----|----|----|----|----|-----|
| 3D-04 | 22 | 13 | 2.5 | 52 | 17.5 | 11 | 19 | 8 | 19 | - | 25 | 8 | 5.5 |
| 3D-05 | 27 | 15 | 2.5 | 56 | 20 | 13 | 23 | 8 | 23 | - | 30 | 8 | 5.5 |
| 3D-06 | 34 | 21 | 3 | 70 | 23 | 15.5 | 27 | 10 | 27 | - | 35 | 10 | 6 |
| 3D-08 | 44.5 | 29 | 3.5 | 84 | 19 | 13 | 31 | 12 | 18 | 26 | 40 | 16 | 7 |
| 3D-10 | 49.5 | 32 | 3.5 | 100 | 22 | 15 | 38 | 15 | 22 | 32 | 50 | 18 | 7 |
| 3D-12 | 54.5 | 36 | 3.5 | 120 | 26 | 18 | 42 | 17 | 24 | 36 | 60 | 20 | 7 |
| 3D-15 | 65 | 40 | 5 | 165 | 26 | 18 | 60 | 20 | 40 | 40 | 70 | 24 | 10 |

STANDARD SOFT JAW FOR 3E CHUCK

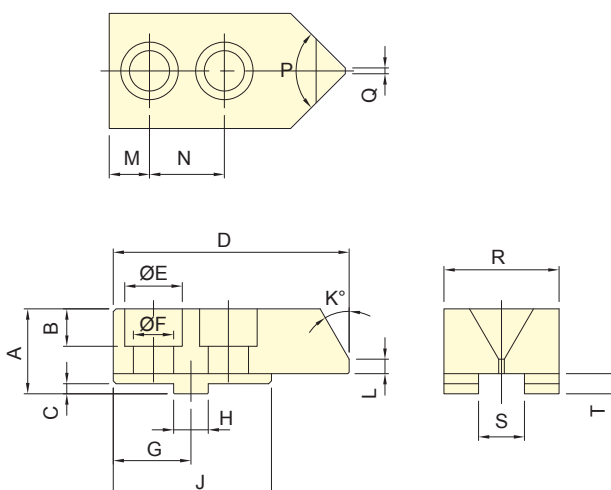


Subject to technical changes

DIMENSIONS

| MODEL | A | B | C | D | E | F | G | H | J | K | L | L1 | |
|-------|--------|----|------|-----|------|------|----|----|------|----|------|----|-----|
| 3E-05 | A Type | 20 | 11 | 6.6 | 16.5 | 10 | C5 | 25 | 22 | 29 | 34.5 | 39 | - |
| | B Type | 20 | 11 | 6.6 | 15 | 25.5 | C5 | 25 | 30 | 29 | 42.5 | 39 | 69 |
| 3E-06 | A Type | 23 | 11 | 7 | 19 | 13 | C5 | 31 | 27.5 | 44 | 46 | 54 | - |
| | B Type | 23 | 11 | 6.6 | 18 | 36 | C5 | 31 | 37.5 | 44 | 56 | 54 | 92 |
| 3E-08 | A Type | 30 | 14 | 9 | 25 | 15 | C6 | 35 | 36 | 50 | 56 | 62 | - |
| | B Type | 30 | 14 | 9 | 24 | 41 | C6 | 35 | 56 | 50 | 76 | 62 | 112 |
| 3E-10 | A Type | 35 | 17.5 | 11 | 26.5 | 17.5 | C5 | 40 | 40 | 60 | 64.5 | 70 | - |
| | B Type | 35 | 17.5 | 11 | 26 | 47.5 | C5 | 40 | 71.5 | 60 | 96 | 70 | 129 |

STANDARD SOFT JAW FOR 3R CHUCK

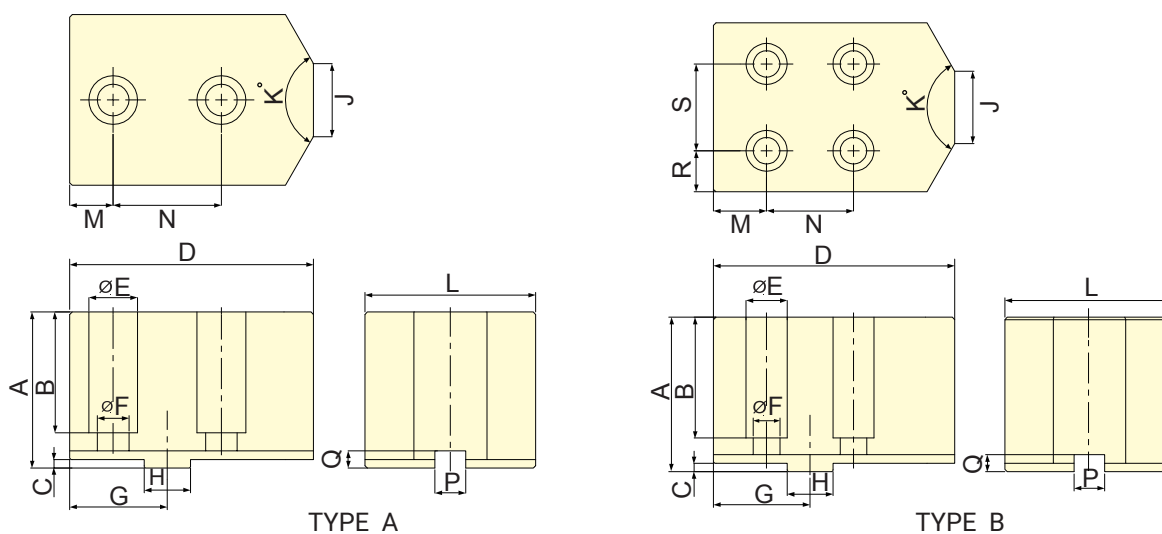


Subject to technical changes

DIMENSIONS

| MODEL | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T |
|-------|------|----|-----|-----|----|----|----|----|----|----|---|----|----|----|---|----|----|---|
| 3R-08 | 29.5 | 13 | 3.5 | 82 | 20 | 14 | 27 | 12 | 55 | 30 | 5 | 14 | 26 | 90 | 2 | 40 | 16 | 7 |
| 3R-10 | 30.5 | 15 | 3.5 | 102 | 23 | 16 | 37 | 15 | 65 | 30 | 7 | 21 | 32 | 90 | 2 | 40 | 18 | 7 |

STANDARD SOFT JAW FOR 3W CHUCK



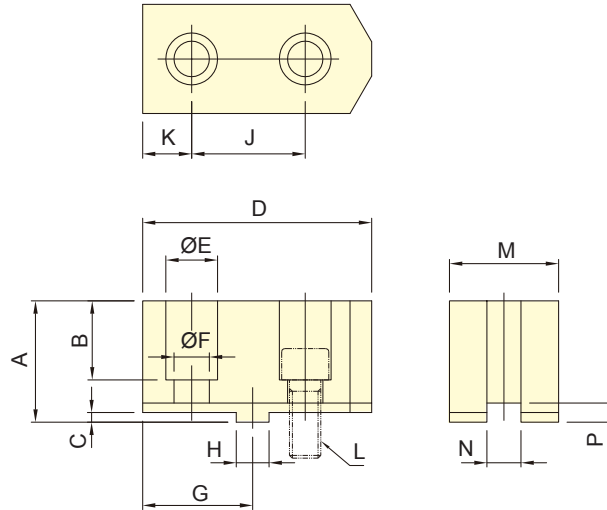
Subject to technical changes

DIMENSIONS

| MODEL | | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S |
|-------|--------|----|------|-----|-----|----|----|----|-------|----|-----|----|------|------|------|---|------|----|
| 3W-08 | A Type | 60 | 44 | 3.5 | 80 | 20 | 13 | 35 | 12.68 | 30 | 120 | 57 | 16 | 38 | 7.94 | 7 | - | - |
| | B Type | 60 | 48 | 3.5 | 80 | 17 | 11 | 35 | 12.68 | 30 | 120 | 57 | 19 | 32 | 7.94 | 7 | 12.5 | 32 |
| 3W-10 | A Type | 64 | 49.5 | 3.5 | 100 | 20 | 13 | 40 | 19.03 | 30 | 120 | 70 | 17.8 | 44.4 | 12.7 | 7 | - | - |
| | B Type | 64 | 50 | 3.5 | 100 | 17 | 11 | 40 | 19.03 | 30 | 120 | 70 | 22 | 36 | 12.7 | 7 | 17 | 36 |
| 3W-12 | A Type | 64 | 49.5 | 3.5 | 100 | 20 | 13 | 40 | 19.03 | 30 | 120 | 70 | 17.8 | 44.4 | 12.7 | 7 | - | - |
| | B Type | 64 | 50 | 3.5 | 100 | 17 | 11 | 40 | 19.03 | 30 | 120 | 70 | 22 | 36 | 12.7 | 7 | 17 | 36 |

*3W series Carbide gripper is optional. * The type of the gripper is selected according to the work-piece conditions.

STANDARD SOFT JAW FOR 3MF CHUCK

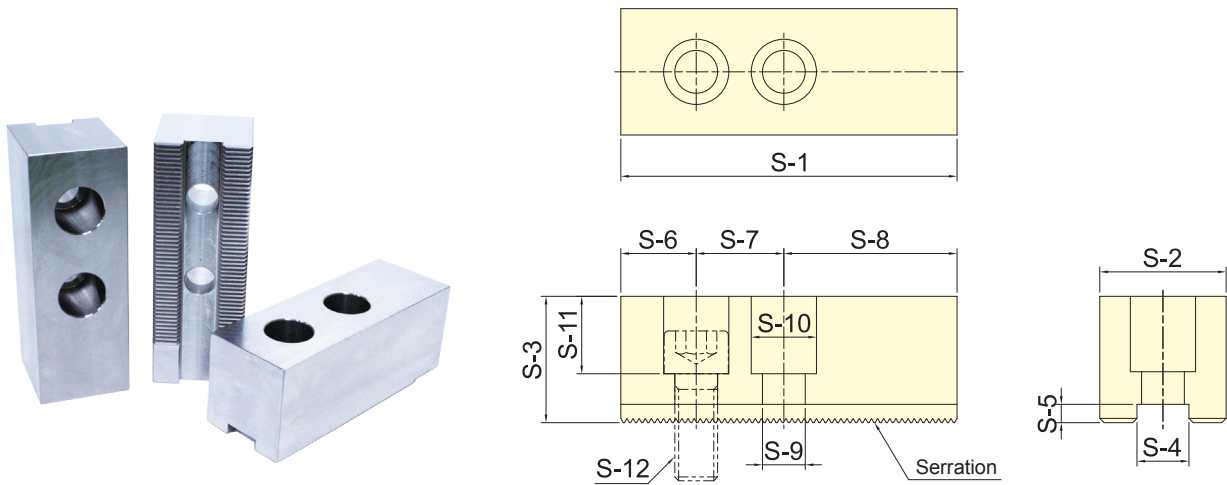


Subject to technical changes

DIMENSIONS

| MODEL | A | B | C | D | E | F | G | H | J | K | L | M | N | P | 3 Jaw Weight (kg) |
|---------------|----|----|---|-----|----|----|----|-------|------|------|-----|----|------|------|-------------------|
| 3MF-20 | 70 | 48 | 6 | 160 | 25 | 17 | 80 | 19.03 | 76.2 | 41.9 | M16 | 50 | 12.7 | 11.5 | 10.4 |

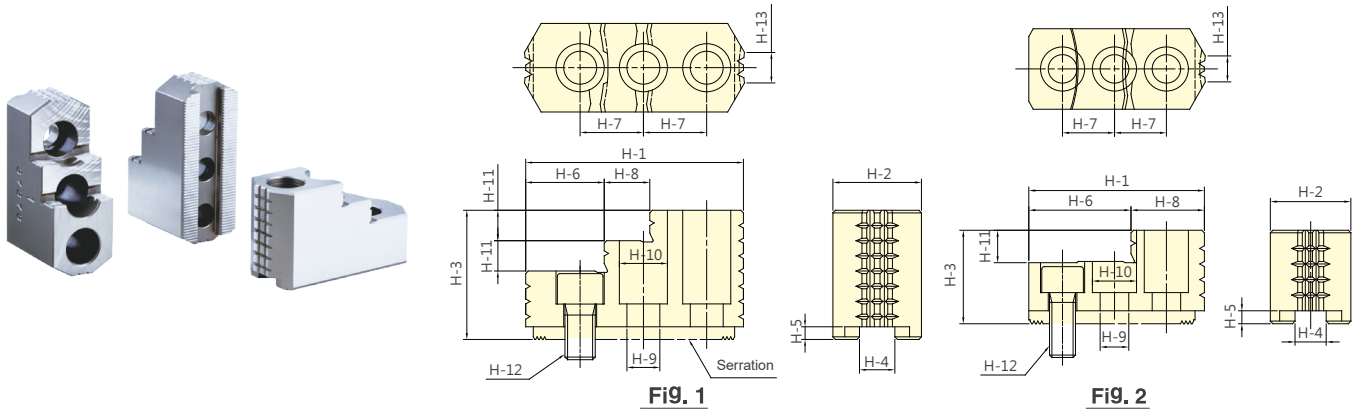
STANDARD SOFT JAW FOR AP CHUCK



Subject to technical changes

DIMENSIONS

| MODEL | S-1 | S-2 | S-3 | S-4 | S-5 | S-6 | S-7 | S-8 | S-9 | S-10 | S-11 | S-12 | Serration Pitch | Matching Chuck | 3 Jaw Weight (kg) |
|---------------|-----|-----|-----|------|-----|-----|-----|-----|-----|------|------|------|-----------------|----------------|-------------------|
| SJ-185 | 165 | 62 | 62 | 25.5 | 9 | 37 | 43 | 85 | 21 | 32 | 38 | M20 | 3.0 × 60° | AP-145, AP-185 | 12.2 |
| SJ-275 | 180 | 64 | 70 | 25.5 | 9 | 40 | 60 | 80 | 21 | 32 | 45 | M20 | 3.0 × 60° | AP-230, AP-275 | 16.1 |
| SJ-320 | 210 | 75 | 80 | 30 | 9 | 40 | 60 | 110 | 26 | 38 | 55 | M24 | 3.0 × 60° | AP-320, AP-375 | 24.7 |



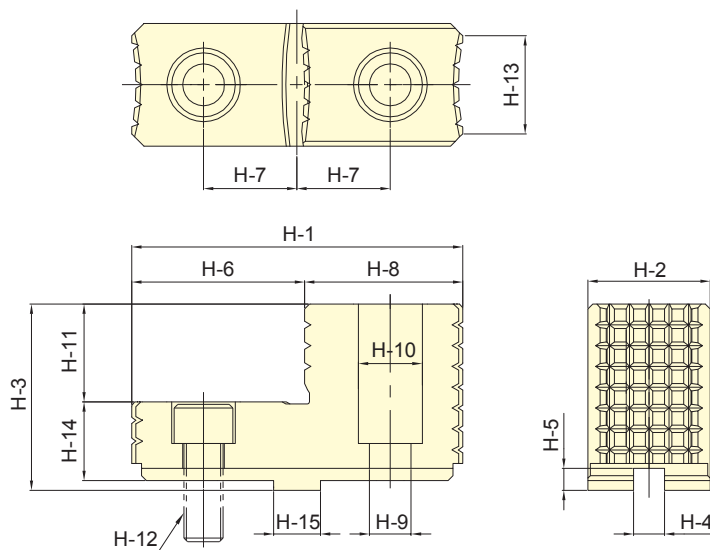
Subject to technical changes

DIMENSIONS

| MODEL | H-1 | H-2 | H-3 | H-4 | H-5 | H-6 | H-7 | H-8 | H-9 | H-10 | H-11 | H-12 | H-13 | Serration Pitch | Matching Chuck | 3 Jaw Weight (kg) | Reference Drawing |
|----------|-------|-----|-----|------|-----|-------|-----|------|-----|------|------|------|------|-----------------|---|-------------------|-------------------|
| HJ-05 | 54.2 | 23 | 28 | 10 | 4 | 31.1 | 14 | 23.1 | 8.5 | 13.5 | 10 | M8 | 3.6 | 1.5×60° | 3H-204, 3H-205 | 1 | Fig.2 |
| HJ-06 | 67.6 | 31 | 36 | 12 | 5 | 40.2 | 20 | 27.4 | 11 | 17 | 12 | M10 | 9.3 | 1.5×60° | 3H-206, 3P-06 | 1.7 | Fig.2 |
| HJ-08 | 86.1 | 35 | 51 | 14 | 5 | 33.5 | 25 | 18.4 | 13 | 19 | 12 | M12 | 14 | 1.5×60° | 3H-208, 3P-08 | 2 | Fig.1 |
| HJ-10 | 100 | 40 | 54 | 16 | 5 | 39.5 | 30 | 22.5 | 13 | 19 | 13 | M12 | 15 | 1.5×60° | 3H-210, 3P-10 | 3 | Fig.1 |
| * HJ-12H | 100.2 | 50 | 52 | 21 | 5 | 64.7 | 30 | 35.5 | 17 | 25 | 17 | M16 | 31.5 | 1.5×60° | 3H-12,3H-212, 3L-212, 3V-12,3P-12, 3M-12 | 3.5 | Fig.2 |
| * HJ-12P | 100.2 | 50 | 52 | 18 | 5 | 64.7 | 30 | 35.5 | 15 | 23 | 17 | M14 | 31.5 | 1.5×60° | 3H-12,3H-212, 3L-212, 3V-12,3P-12, 3M-12 | 3.6 | Fig.2 |
| * HJ-15H | 140.7 | 62 | 86 | 22 | 8 | 62.5 | 43 | 34 | 21 | 32 | 20 | M20 | 43 | 1.5×60° | 3H-15, 3H-215, 3H-18, 3L-15 3V-15, 3V-18,3P-215, 3P-218 | 9.6 | Fig.1 |
| * HJ-15P | 140.7 | 62 | 86 | 25.5 | 6 | 62.5 | 43 | 34 | 21 | 32 | 20 | M20 | 43 | 1.5×60° | 3H-15, 3H-215, 3H-18, 3L-15 3V-15, 3V-18,3P-215, 3P-218 | 9.5 | Fig.1 |
| HJ-21 | 153.5 | 80 | 90 | 25 | 9 | 103.7 | 50 | 49.8 | 21 | 32 | 40 | M20 | 56.5 | 3.0×60° | 3H-221, 3H-224, 3H-232, 3P-221, 3P-224, 3V-21, 3V-24, 3V-32 | 14.3 | Fig.2 |

* For HJ-12H, HJ-12P, HJ-15H, HJ-15P, please confirm the dimension of H-4 before placing the order.

STANDARD HARDEN JAW FOR 3MF CHUCK

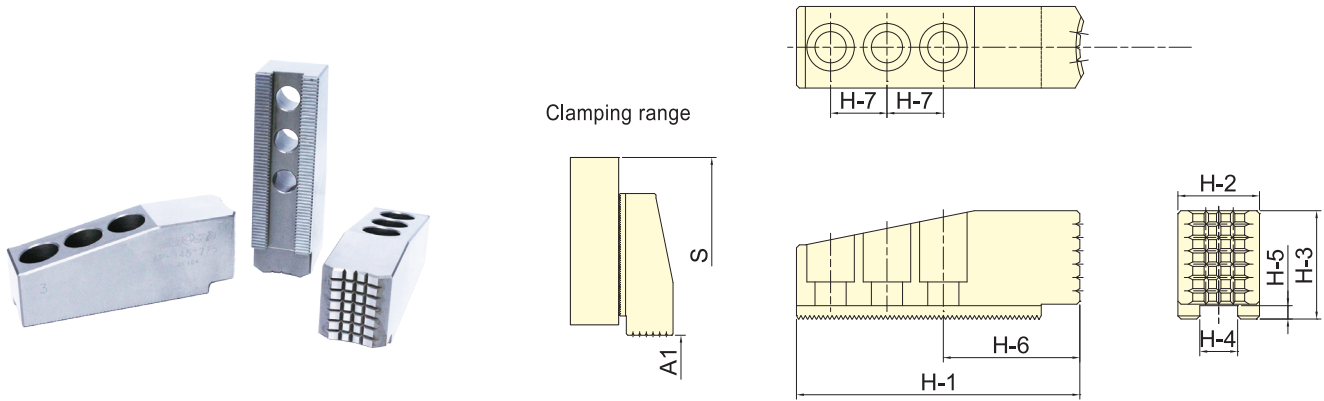


Subject to technical changes

DIMENSIONS

| Model | H-1 | H-2 | H-3 | H-4 | H-5 | H-6 | H-7 | H-8 | H-9 | H-10 | H-11 | H-12 | H-13 | H-14 | H-15 | Matching Chuck | 3 Jaw Weight |
|--------|-----|-----|-----|------|-----|-----|------|-----|-----|------|------|------|------|------|-------|----------------|--------------|
| 3MF-20 | 135 | 50 | 76 | 12.7 | 9 | 70 | 38.1 | 65 | 17 | 26 | 40 | M16 | 40 | 32 | 19.03 | 3MF-20 | 6.7 |

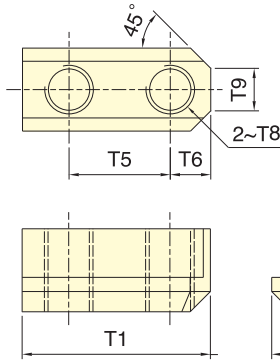
STANDARD HARDEN JAW FOR AP CHUCK



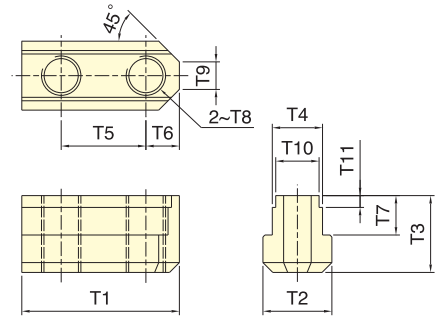
Subject to technical changes

DIMENSIONS

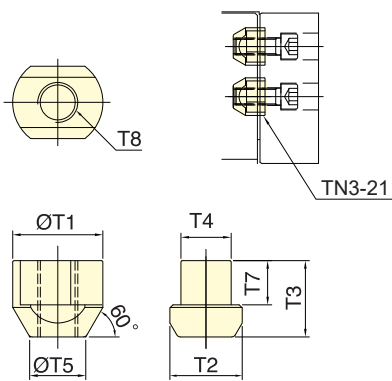
| Model | H-1 | H-2 | H-3 | H-4 | H-5 | H-6 | H-7 | A1 | S | Serration Pitch | Matching Chuck | 3 Jaw Weight (kg) |
|--------|-----|-----|-----|------|-----|-----|-----|---------|-----|-----------------|----------------|-------------------|
| HJ-145 | 191 | 55 | 73 | 25.5 | 9 | 92 | 38 | 30-125 | 420 | 3.0 × 60° | AP-145 | 12.5 |
| HJ-145 | 191 | 55 | 73 | 25.5 | 9 | 92 | 38 | 35-165 | 460 | 3.0 × 60° | AP-185 | 12.5 |
| HJ-145 | 191 | 55 | 73 | 25.5 | 9 | 92 | 38 | 55-240 | 535 | 3.0 × 60° | AP-230 | 12.5 |
| HJ-145 | 191 | 55 | 73 | 25.5 | 9 | 92 | 38 | 100-285 | 580 | 3.0 × 60° | AP-275 | 12.5 |
| HJ-320 | 243 | 75 | 82 | 30 | 9 | 110 | 50 | 105-300 | 658 | 3.0 × 60° | AP-320 | 24.6 |
| HJ-320 | 243 | 75 | 82 | 30 | 9 | 110 | 50 | 165-375 | 738 | 3.0 × 60° | AP-375 | 24.6 |



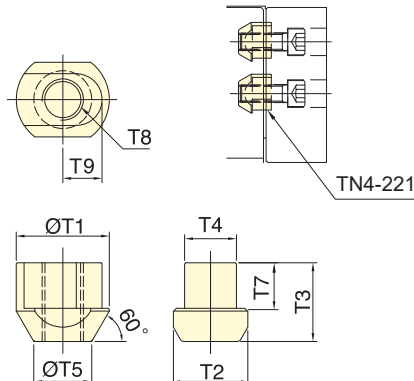
TN1



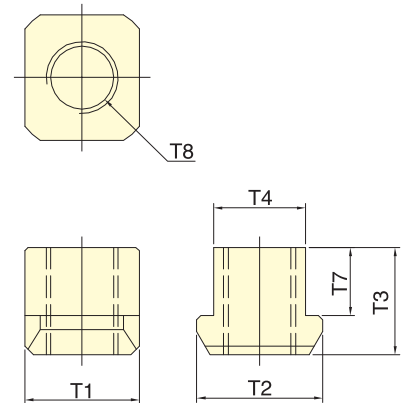
TN2



TN3



TN4



TN5

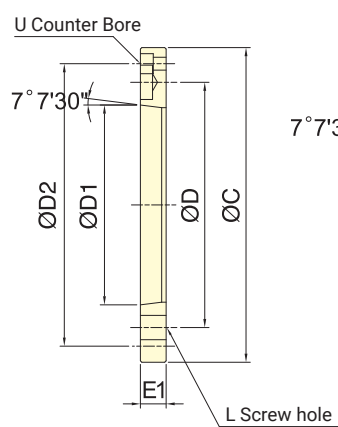
Subject to technical changes

DIMENSIONS

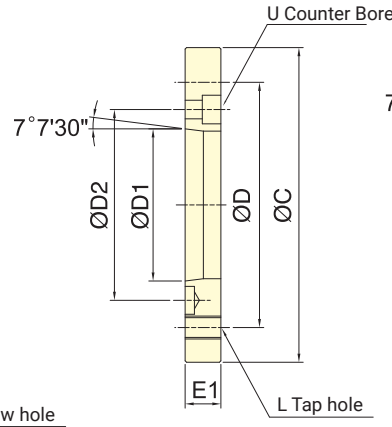
| Model | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | T9 | T10 | T11 | Matching Chuck | 3 Pcs Weight |
|-----------|------|------|------|------|----|------|------|-----|----|-----|-----|---|--------------|
| | | | | | | | | | | | | | (kg) |
| TN1-04 | 26 | 14 | 15 | 10 | 14 | 6 | 9.5 | M8 | 5 | - | - | H-204, H-205, P-04, P-05, L-205, M-05, SP-304 | 0.06 |
| TN1-06 | 36 | 17 | 18.5 | 12 | 20 | 8 | 11 | M10 | 6 | - | - | H-206, P-06, L-206, 1L-06, M-06, 3N-06, AP-52, RAP-306, SP-306 | 0.15 |
| TN1-08 | 46.5 | 20 | 20.5 | 14 | 25 | 10.5 | 12 | M12 | 10 | - | - | H-208, P-08, L-208, 1L-08, M-08, 3N-08, 4T-08, AP-66, RAP-308, SP-308 | 0.27 |
| TN1-10 | 51 | 22 | 21.5 | 16 | 30 | 11 | 13 | M12 | 11 | - | - | H-210, P-10, L-210, 1L-10, M-10, 3N-10, 4T-10, AP-86, RAP-310, SP-310 | 0.36 |
| * TN1-12 | 55.5 | 29.5 | 28 | 21 | 30 | 12 | 16.7 | M16 | 13 | - | - | 2H-12, P-12, L-12, M-12 | 0.63 |
| TN2-12 | 55.5 | 29.5 | 28 | 21 | 30 | 12 | 16.7 | M14 | 13 | 18 | 4.5 | 2H-12, P-12, L-12, M-12 | 0.63 |
| * TN1-15 | 80 | 35 | 39.5 | 25.5 | 43 | 17 | 20.5 | M20 | 14 | - | - | 2H-15, 3H-18B, P-15, P-215, P-218, L-15, M-215, M-218, V-15, V-18 | 1.53 |
| TN2-15 | 80 | 35 | 39.5 | 25.5 | 43 | 17 | 20.5 | M20 | 14 | 22 | 6 | 2H-15, 3H-18B, P-15, P-215, P-218, L-15, M-215, M-218, V-15, V-18 | 1.5 |
| * TN1-212 | 56 | 29.5 | 23.5 | 21 | 30 | 12 | 12 | M16 | 10 | - | - | 3H-12, 4H-12, H-212, L-212, V-12, 4T-15, AP-115 | 0.63 |
| TN2-212 | 56 | 29.5 | 23.5 | 21 | 30 | 12 | 12 | M14 | 10 | 18 | 4 | 3H-12, 4H-12, H-212, L-212, V-12, 4T-15, AP-115 | 0.63 |
| * TN1-215 | 80 | 35 | 34 | 25.5 | 43 | 17 | 19 | M20 | 14 | - | - | 3H-15, 4H-15, 3H-18, 4H-18, H-215, L-215, SP-316 | 1.32 |
| TN2-215 | 80 | 35 | 34 | 25.5 | 43 | 17 | 19 | M20 | 14 | 22 | 6 | 3H-15, 4H-15, 3H-18, 4H-18, H-215, L-215, SP-316 | 1.29 |
| TN3-21 | 46 | 37.5 | 45 | 25 | 26 | - | 26 | M20 | - | - | - | P-221, P-224, M-221, M-224, V-21, V-24, V-32, | 1.84 |
| TN4-221 | 45 | 36 | 38 | 25 | 28 | - | 22 | M20 | 19 | - | - | H-221, H-224, H-232, SP-320, SP-324 | 0.63 |
| TN5-185 | 32 | 35 | 30 | 25.5 | - | - | 19 | M20 | - | - | - | AP-145, AP-185, AP-230, AP-275 | 0.15 |
| TN5-320 | 36 | 42 | 39 | 30 | - | - | 24 | M24 | - | - | - | AP-320, AP-375 | 0.24 |

* 12" Chucks are originally equipped with TN1-12 & TN1-212.

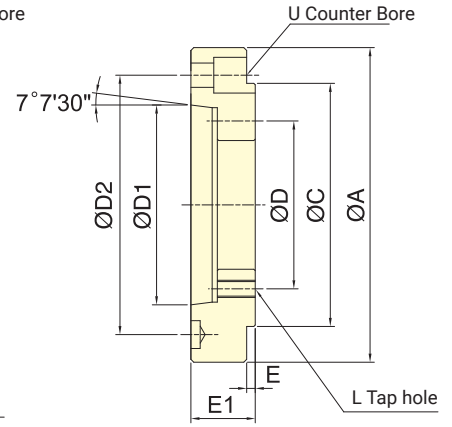
* 15" Chucks are originally equipped with TN1-15 & TN1-215.



FL1



FL2



FL3

Subject to technical changes

DIMENSIONS

| Model | A | C | D | D1 | D2 | E | E1 | L | U | Remark | Weight (kg) |
|-------------------|-----|-----|-------|---------|-------|-----|-----------|-----|-----|---|-------------|
| FL3-04A24 | 110 | 85 | 70.6 | 63.513 | 82.6 | 8 | 28 | M10 | M10 | 3H-204, 2H-204 | 1.12 |
| FL3-04A25 | 140 | 85 | 70.6 | 82.563 | 104.8 | 5.5 | 32 | M10 | M10 | 3H-204, 2H-204 | 2.28 |
| FL1-05A24 | - | 110 | 82.6 | 63.513 | 96 | - | 15 | M10 | M6 | 3H-205, 2H-205, 3L-05, 2L-05, 3J-05, 2J-05 | 0.65 |
| FL3-05A25 | 135 | 110 | 82.6 | 82.563 | 104.8 | 6 | 30 | M10 | M10 | 3H-205, 2H-205, 3L-05, 2L-05 | 1.99 |
| FL1-06A25 | - | 140 | 104.8 | 82.563 | 116 | - | 15 *18 | M10 | M6 | 2H-206, 4H-206, 3H-206, 3P-06, 2P-06, 3M-06, 2M-06, 3E-06, 3D-06, 2D-06, 3N-06, 3J-06, 2J-06 *3L-206, *2L-206 | 0.96 |
| FL3-06A26 | 165 | 140 | 104.8 | 106.375 | 133.4 | 6 | 35 | M10 | M12 | 2H-206, 4H-206, 3H-206, 3L-206, 2L-206, 3P-06, 2P-06, 3M-06, 2M-06, 3E-06, 3D-06, 2D-06, 3N-06, 3J-06, 2J-06 | 3.12 |
| FL2-08A25 | - | 170 | 133.4 | 82.563 | 104.8 | - | 23 | M12 | M10 | 3H-208, 2H-208, 4H-208, 3P-08, 2P-08, 3M-08, 2M-08, 4T-08, 3E-08, 3D-08, 2D-08, 3N-08, 3J-08, 2J-08, 3R-08, 3W-08, 3Q-08 *3L-208, *2L-208, | 2.7 |
| FL1-08A26 | - | 170 | 133.4 | 106.375 | 150 | - | 17 *23 | M12 | M6 | 2H-208, 4H-208, 3H-208, 3P-08, 2P-08, 3M-08, 2M-08, 4T-08, 3E-08, 3D-08, 2D-08, 3N-08, 3J-08, 2J-08, 3R-08, 3W-08, 3Q-08 *3L-208, *2L-208 | 1.55 |
| FL2-10A26 | - | 220 | 171.4 | 106.375 | 133.4 | - | 25 | M16 | M12 | 4H-10, 3P-10, 2P-10, 3M-10, 2M-10, 3H-12, 2H-12, 4H-12, 3L-212, 2L-12, 3P-12, 2P-12, 3M-12, 2M-12, 4T-10, 4T-12, 3E-10, 3D-10, 2D-10, 3N-10, 3J-10, 2J-10, 3R-10, 3Q-10, 3W-10, 3W-12 | 5.02 |
| FL1-10A28 | - | 220 | 171.4 | 139.719 | 190 | - | 18 | M16 | M8 | 2H-210, 4H-10, 3H-210, 3L-210, 2L-210, 3P-10, 2P-10, 3M-10, 2M-10, 3H-12, 2H-12, 4H-12, 3L-212, 2L-12, 3P-12, 2P-12, 3M-12, 2M-12, 4T-10, 4T-12, 3E-10, 3D-10, 2D-10, 3N-10, 3J-10, 2J-10, 3R-10, 3Q-10, 3Q-12, 3W-10, 3W-12 | 2.73 |
| FL2-15A28 | - | 300 | 235 | 139.719 | 171.4 | - | 33 | M20 | M16 | 3H-15, 3H-212, 2H-15, 4H-15, 3L-15, 2L-15, 3P-215, 2P-15, 3M-15, 2M-15, 4T-15, 3H-18, 4H-18, 3P-218 | 12.52 |
| FL1-15A211 | - | 300 | 235 | 196.869 | 260 | - | 22 | M20 | M10 | 3H-15, 3H-212, 2H-15, 4H-15, 3L-15, 2L-15, 3P-215, 2P-15, 3M-15, 2M-15, 4T-15, 3H-18, 4H-18, 3P-218 | 6.03 |
| FL2-21A28 | - | 380 | 330.2 | 139.719 | 171.4 | - | 33 | M24 | M16 | 3H-215, 3P-221, 3P-224 | 22.05 |
| FL2-21A211 | - | 380 | 330.2 | 196.869 | 235 | - | 40 *27 | M24 | M20 | 3H-215 *3P-221, *3P-224 | 16.28 |
| FL1-21A215 | - | 380 | 330.2 | 285.775 | 330.2 | - | 27 | M24 | M12 | 3H-215, 3H-18B, 3H-221, 3P-221, 3P-224 | 8.6 |
| FL2-40A215 | - | 520 | 463.6 | 285.775 | 330.2 | - | 40 | M24 | M24 | 3H-224 | 43.26 |
| FL1-40A220 | - | 520 | 463.6 | 412.775 | 463.6 | - | 27 | M24 | M12 | 3H-224, 3H-232 | 13.55 |

Models with "*" mark are produced only by order.



- The proximity switch and linear Sensor are optional.

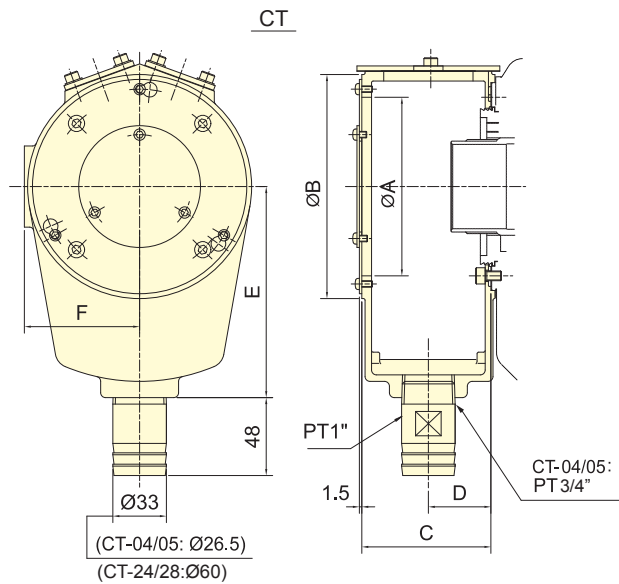
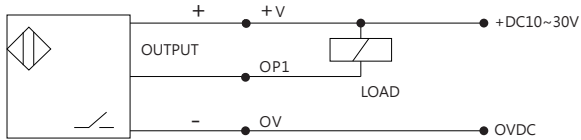
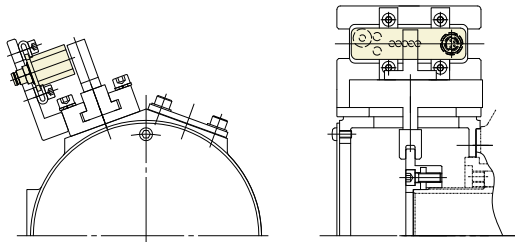
- The proximity switch is optional.

| Power supply | Switching cap. | Output type |
|--------------|----------------|-------------|
| DC 10/30V | 100mA | NPN |

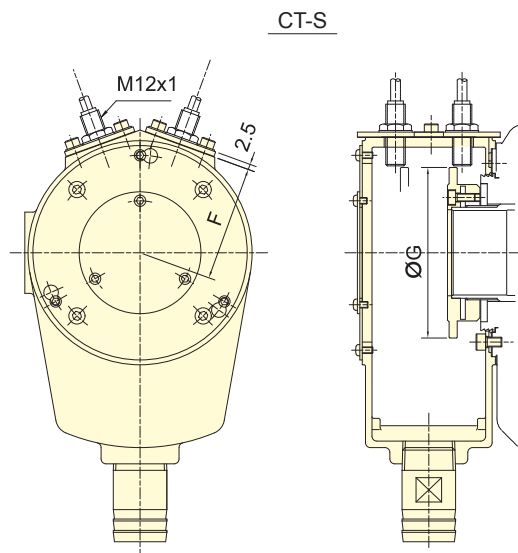
- Terminal Connections

| +V | OP1 | OV |
|-------|-------|------|
| BROWN | BLACK | BLUE |

- linear Sensor installation drawing



Coolant Collector

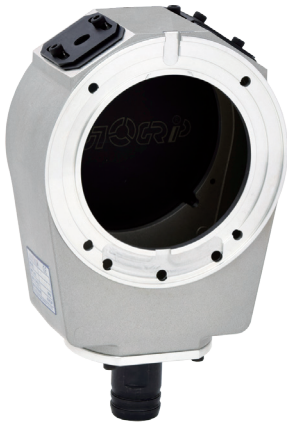


Coolant Collector with Detecting Ring

Subject to technical changes

DIMENSIONS

| Model | A | B | C | D | E | F | G | Weight (kg) | | Matching cyl. |
|------------------|-----|-----|-----|----|-----|------|-----|-------------|------|--|
| | | | | | | | | CT | CT-S | |
| CT-04/CT-04S | 87 | 110 | 60 | 29 | 110 | 57 | 79 | 0.9 | 1.1 | TH-428 |
| CT-05/CT-05S(TH) | 87 | 110 | 60 | 29 | 110 | 57 | 84 | 0.9 | 1.1 | TH-A536 |
| CT-05/CT-05S(TK) | 87 | 110 | 60 | 29 | 110 | 57 | 84 | 0.9 | 1.1 | TK-A528, TK-A533 |
| CT-06/CT-06S | 100 | 125 | 74 | 36 | 120 | 64.5 | 94 | 1.2 | 1.6 | TK-C643, TK-A646, TK-B646, TK-C646, TR-646 |
| CT-08/CT-08S | 110 | 138 | 80 | 39 | 130 | 71 | 105 | 1.3 | 1.8 | TK-B846, TK-A853, TK-B853, TR-853 |
| CT-K10/CT-K10S | 158 | 185 | 88 | 43 | 160 | 94.5 | 145 | 1.9 | 2.6 | TK-A1068, TK-A1075, TK-A1078, TR-1075 |
| CT-12/CT-12S | 158 | 185 | 88 | 43 | 160 | 94.5 | 145 | 1.9 | 2.6 | TK-A1287, TK-A1291, TR-1291 |
| CT-15/CT-15S | 206 | 235 | 100 | 50 | 210 | 121 | 190 | 3.1 | 4.3 | TK-A1511, TK-A1512, TK-A1512-35 |
| CT-21/CT-21S | 226 | 255 | 100 | 50 | 210 | 131 | 210 | 3.3 | 4.6 | TK-2114 |
| CT-24/CT-24S | 250 | 270 | 100 | 50 | 230 | 154 | 248 | 3.5 | 5.5 | TK-2416, TK-2416L |
| CT-28/CT-28S | 310 | 330 | 100 | 50 | 260 | 181 | 305 | 4.3 | 7.2 | TK-2820 |



- The proximity switch and linear Sensor are optional.
- Drain port Ø40 and Ø60 are optional product.
- Drain port Ø60 only use to CT-S08B,CT-S10B,CT-S12B.

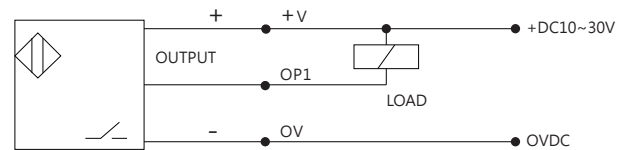
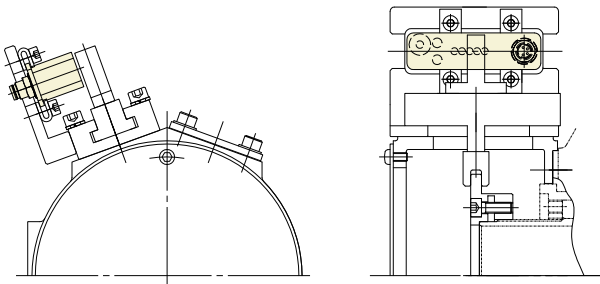
■ The proximity switch is optional.

| Power supply | Switching cap. | Output type |
|--------------|----------------|-------------|
| DC 10/30V | 100mA | NPN |

■ Terminal Connections

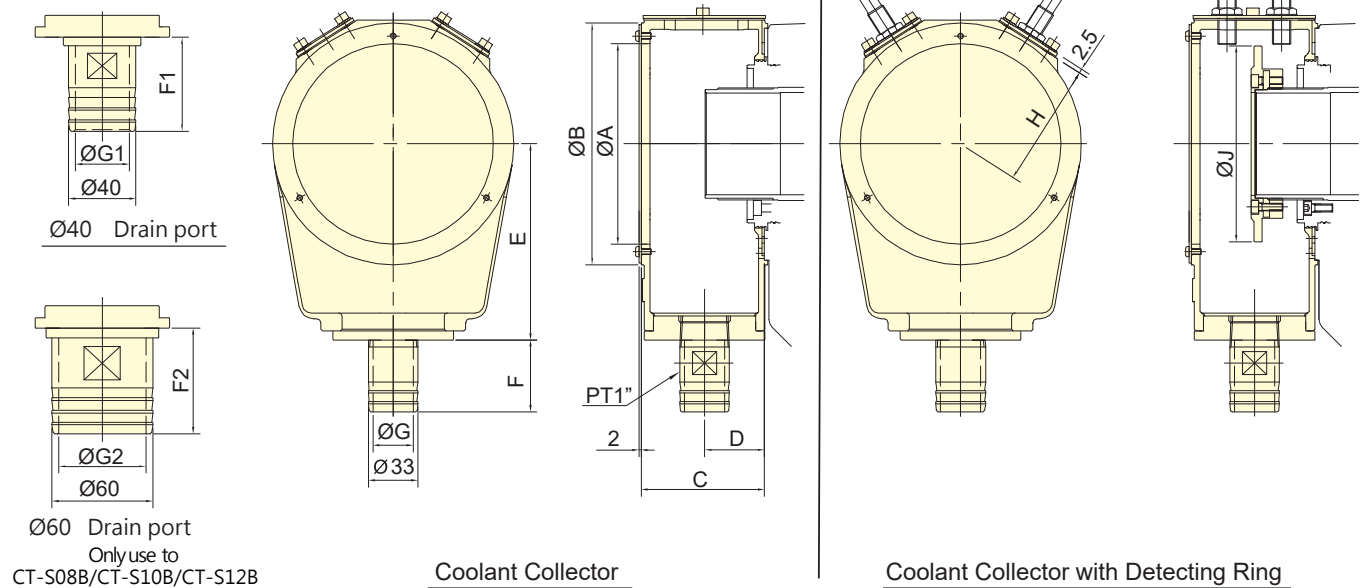
| +V | OP1 | OV |
|-------|-------|------|
| BROWN | BLACK | BLUE |

■ linear Sensor installation drawing



CT-SB

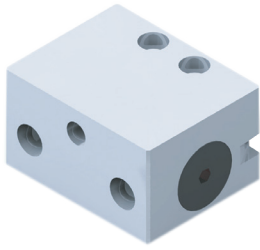
CT-SBS



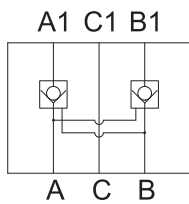
Subject to technical changes

DIMENSIONS

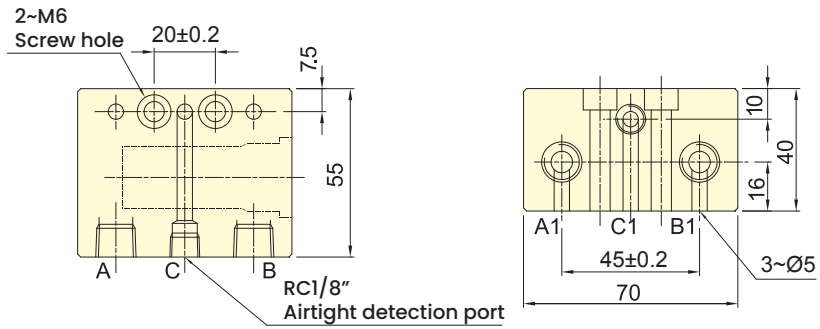
| Model | A | B | C | D | E | F | F1 | F2 | G | G1 | G2 | H | J | Weight (kg) | | Matching cyl. |
|------------------|-----|-----|------|------|-----|------|----|----|----|----|----|-----|-----|-------------|--------|----------------|
| | | | | | | | | | | | | | | CT-SB | CT-SBS | |
| CT-S05B/CT-S05BS | 97 | 120 | 68.3 | 33.3 | 96 | 49.6 | 56 | - | 25 | 32 | - | 62 | 86 | 1.1 | 1.6 | TS-539, TR-539 |
| CT-S08B/CT-S08BS | 133 | 160 | 82 | 40 | 130 | 49.6 | 56 | 63 | 25 | 32 | 52 | 82 | 130 | 0.9 | 1.4 | TS-866 |
| CT-S10B/CT-S10BS | 160 | 188 | 88 | 43 | 148 | 49.6 | 56 | 63 | 25 | 32 | 52 | 96 | 148 | 1.16 | 2.9 | TS-1081 |
| CT-S12B/CT-S12BS | 200 | 232 | 88 | 43 | 171 | 49.6 | 56 | 63 | 25 | 32 | 52 | 118 | 190 | 2.6 | 4 | TS-1210 |



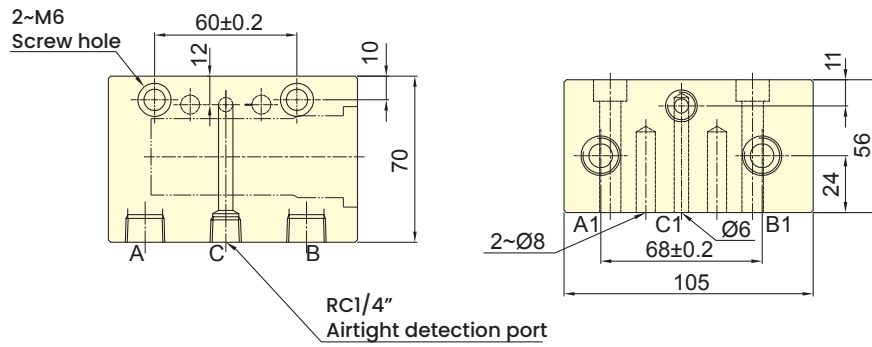
Model:FV-01



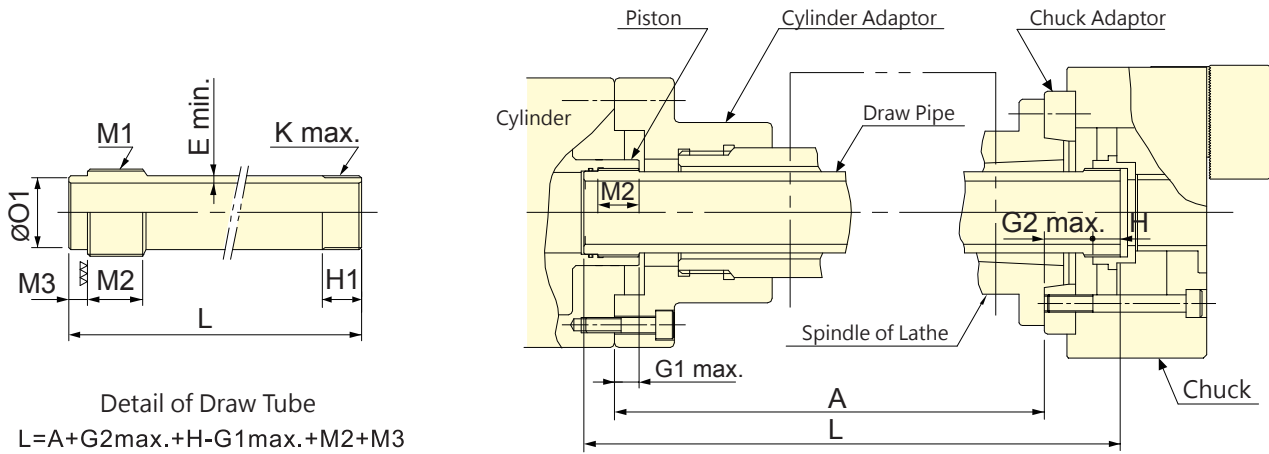
Circuit drawing



Model:FV-03



Subject to technical changes



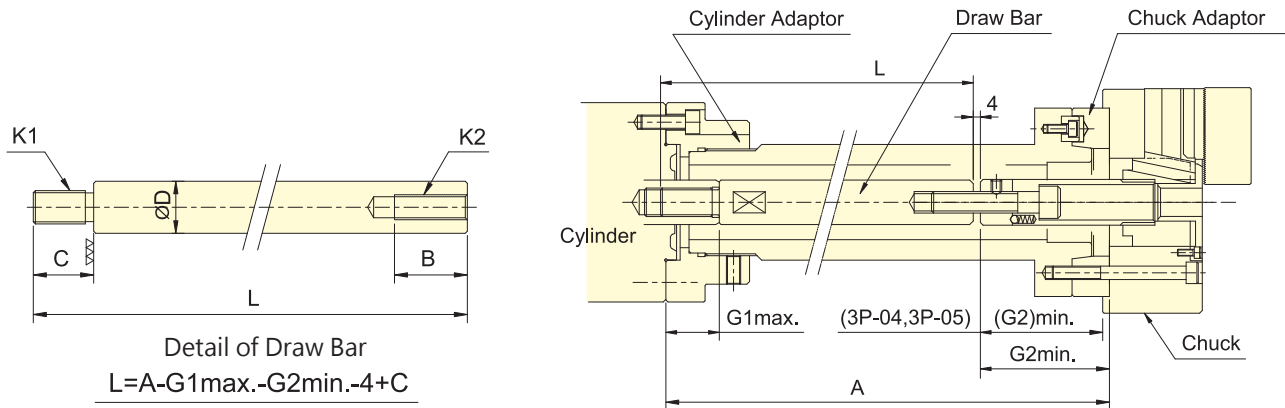
Subject to technical changes

SPECIFICATIONS

| Chuck type | Cylinder type | G1 | H | M3 | M2 | G2 | M1 | H1 | O1 | | K | E | L | |
|------------|---------------|----------|----|----|----|------|----|--------|------|------|------------------|--------|---|---------|
| | | max. | | | | max. | | | (f7) | max. | | min. | | |
| 3H-12 | A8 | TK-A1291 | 30 | 23 | 12 | 35 | 28 | M100x2 | 35 | 95 | -0.036 -0.071 | M100x2 | 5 | A+56+12 |
| 3H-15 | A11 | TK-A1512 | 30 | 33 | 12 | 45 | 33 | M130x2 | 45 | 125 | -0.043 -0.083 | M130x2 | 5 | A+81+12 |
| 3H-18 | A11 | TK-A1512 | 30 | 33 | 12 | 45 | 33 | M130x2 | 45 | 125 | -0.043 -0.083 | M130x2 | 5 | A+81+12 |

| Chuck type | Cylinder type | G1 | H | M3 | M2 | G2 | M1 | H1 | O1 | | K | E | L | |
|------------|---------------|----------|----|------|----|------|------|---------|------|------|------------------|---------|---|-----------|
| | | max. | | | | max. | | | (f7) | max. | | min. | | |
| 3H-204 | A4 | TK-A528 | 12 | 14.5 | 10 | 25 | 31.5 | M38x1.5 | 20 | 35 | -0.025 -0.05 | M38x1.5 | 5 | A+59+10 |
| 3H-205 | A4 | TK-A533 | 12 | 17 | 10 | 25 | 16 | M38x1.5 | 25 | 35 | -0.025 -0.05 | M45x1.5 | 5 | A+46+10 |
| 3H-206 | A5 | TK-A646 | 15 | 14 | 10 | 25 | 28 | M55x2 | 20 | 50 | -0.025 -0.05 | M60x2 | 5 | A+52+10 |
| 3H-208 | A6 | TK-A853 | 20 | 16.5 | 12 | 30 | 33.5 | M60x2 | 20 | 55 | -0.03 -0.06 | M75x2 | 5 | A+60+12 |
| 3H-210 | A8 | TK-A1075 | 25 | 21 | 12 | 35 | 28.5 | M85x2 | 25 | 80 | -0.03 -0.06 | M95x2 | 5 | A+59.5+12 |
| 3H-212 | A11 | TK-A1512 | 30 | 23 | 12 | 45 | 32 | M130x2 | 30 | 125 | -0.043 -0.083 | M115x2 | 5 | A+70+12 |
| 3H-215 | A8 | TK-2114 | 35 | 33 | 17 | 45 | 44 | M155x2 | 40 | 145 | -0.043 -0.083 | M115x2 | 5 | A+87+17 |
| 3H-215 | A11 | TK-2114 | 35 | 33 | 17 | 45 | 51 | M155x2 | 40 | 145 | -0.043 -0.083 | M155x3 | 5 | A+93+17 |
| 3H-215 | A15 | TK-2114 | 35 | 33 | 17 | 45 | 38 | M155x2 | 40 | 145 | -0.043 -0.083 | M155x3 | 5 | A+81+17 |
| 3H-18B | A15 | TK-2416 | 35 | 35 | 17 | 45 | 45 | M180x3 | 40 | 170 | -0.043 -0.083 | M175x3 | 5 | A+90+17 |
| 3H-221 | A15 | TK-2416 | 35 | 34 | 17 | 45 | 42 | M180x3 | 40 | 170 | -0.043 -0.083 | M190x3 | 5 | A+86+17 |
| 3H-224 | A20 | TK-2820 | 51 | 35 | 17 | 45 | 42 | M220x3 | 40 | 210 | -0.050 -0.096 | M225x3 | 5 | A+71+17 |
| 3H-232 | A20 | TK-2820 | 51 | 37 | 17 | 45 | 51 | M220x3 | 45 | 230 | -0.050 -0.096 | M295x3 | 5 | A+82+17 |

Note: To calculate the draw-tube length of 2H, 4H as 3H, 3H-2.



Subject to technical changes

SPECIFICATIONS

| Chuck type | Cylinder type | B | C | D | G1 | G2 | K1 | K2 | L |
|---------------|------------------|----|-------|-------|------|------|---------------|----------|-------------|
| | | | | | max. | min. | | | |
| 3P-04 | RK-75(N)/RA-130 | 30 | 30/20 | 30/25 | 45 | 3 | M20x2.5/M16x2 | M10x1.5 | A-22/A-32 |
| 3P-05 | RK-75(N)/RA-130 | 40 | 30/20 | 30/25 | 45 | -6 | M20x2.5/M16x2 | M12x1.75 | A-13/A-23 |
| 3P-06 | RK-100(N)/RA-170 | 40 | 30/25 | 30/25 | 45 | 81.5 | M20x2.5/M16x2 | M16x2 | A-101/A-106 |
| 3P-08 | RK-125(N)/RA-220 | 40 | 40/30 | 35/30 | 50 | 106 | M24x3/M20x2.5 | M20x2.5 | A-120/A-130 |
| 3P-10 | RK-125(N)/RA-220 | 40 | 40/30 | 35/30 | 50 | 133 | M24x3/M20x2.5 | M20x2.5 | A-147/A-157 |
| 3P-12 | RK-150(N)/RA-270 | 40 | 40/35 | 45/35 | 55 | 133 | M30x3.5/M24x3 | M20x2.5 | A-152/A-157 |
| 3P-215 | RK-200(N)/RH-200 | 60 | 55 | 55 | 70 | 69 | M36x4 | M30x3.5 | A-88 |
| 3P-218 | RK-200(N)/RH-200 | 60 | 55 | 55 | 70 | 57 | M36x4 | M30x3.5 | A-76 |
| 3P-221 | RK-200(N)/RH-200 | 60 | 55 | 55 | 70 | 62 | M36x4 | M30x3.5 | A-81 |
| 3P-224 | RK-200(N)/RH-200 | 60 | 55 | 55 | 70 | 62 | M36x4 | M30x3.5 | A-81 |

Note: To calculate the draw-bar length of 2P as 3P.

| Chuck type | Cylinder type | B | C | D | G1 | G2 | K1 | K2 | L |
|--------------|---------------|----|----|----|------|------|---------|----------|-------|
| | | | | | max. | min. | | | |
| 3M-05 | RK-75(N) | 40 | 30 | 30 | 45 | -2 | M20x2.5 | M12x1.75 | A-17 |
| 3M-06 | RK-100(N) | 40 | 30 | 30 | 45 | 81.5 | M20x2.5 | M16x2 | A-101 |
| 3M-08 | RK-125(N) | 40 | 40 | 35 | 50 | 106 | M24x3.0 | M20x2.5 | A-120 |
| 3M-10 | RK-150(N) | 40 | 40 | 35 | 50 | 135 | M24x3.0 | M20x2.5 | A-148 |
| 3M-12 | RK-150(N) | 50 | 40 | 45 | 55 | 40 | M30x3.5 | M24x3 | A-59 |

Note: To calculate the draw-bar length of 2M as 3M.

