



**ROTARY
CYLINDER**

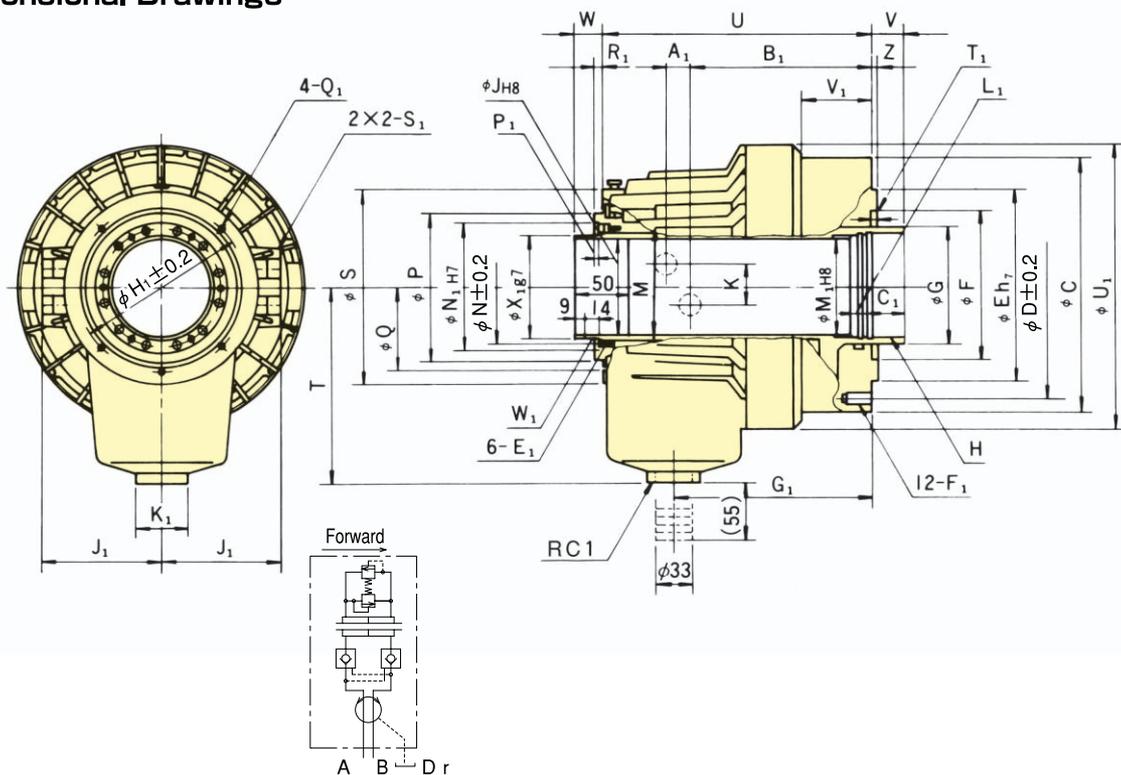
Large Thru-Hole High Speed Hydraulic Cylinder with Open Center S series

KITAGAWA standard thru-hole type

- Compact and light weight
- Built-in check valve and relief valve



Dimensional Drawings



Cylinder

Dimensions

| Model | C | D | E | F | G | H | J Thru-hole | K | M | N | P | Q | S | T | U | V max. | V min. | W max. | W min. | Z | A ₁ |
|-------|-----|-----|-----|-----|-----|----------|-------------|----|------|-----|-----|------|-----|-----|-----|--------|--------|--------|--------|---|----------------|
| S1246 | 155 | 130 | 100 | 80 | 65 | M 55×2.0 | 46 | 36 | 52.9 | 64 | 85 | 51.5 | 118 | 115 | 179 | 15 | 0 | 40 | 25 | 5 | 11.5 |
| S1552 | 190 | 170 | 130 | 85 | 70 | M 60×2.0 | 52 | 36 | 59.6 | 73 | 96 | 57.5 | 137 | 130 | 191 | 22 | 0 | 47 | 25 | 5 | 12 |
| S1875 | 215 | 190 | 160 | 120 | 95 | M 85×2.0 | 75 | 36 | 84.6 | 98 | 121 | 70.5 | 166 | 160 | 225 | 25 | 0 | 50 | 25 | 5 | 17.5 |
| S2091 | 240 | 215 | 180 | 140 | 110 | M100×2.0 | 91 | 34 | 93.6 | 108 | 138 | 79 | 182 | 185 | 248 | 30 | 0 | 55 | 25 | 5 | 21 |

| Model | B ₁ | C ₁ | E ₁ depth | F ₁ depth | G ₁ | H ₁ | J ₁ | K ₁ | L ₁ | M ₁ | N ₁ | P ₁ | Q ₁ depth | R ₁ | S ₁ | T ₁ | U ₁ | V ₁ | W ₁ | X ₁ |
|-------|----------------|----------------|----------------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| S1246 | 126.5 | 30 | M6×9 | M10×20 | 135 | 98 | 76 | 47 | 15 | 50 | 76 | 4 | M5×10 | 6 | RC1/2 | 6 | 200 | 46 | M52×1.5 | 50 |
| S1552 | 136 | 30 | M6×9 | M10×20 | 145 | 110 | 86 | 47 | 15 | 55 | 85 | 4 | M6×12 | 7 | RC1/2 | 6 | 220 | 51 | M58×1.5 | 56 |
| S1875 | 153.5 | 35 | M6×9 | M10×20 | 166.5 | 155 | 101 | 47 | 15 | 80 | 108 | 4 | M6×12 | 7 | RC1/2 | 6 | 242 | 58 | M84×2.0 | 81 |
| S2091 | 168 | 35 | M6×14 | M12×24 | 183 | 165 | 110 | 47 | 15 | 95 | 120 | 4 | M6×12 | 7 | RC1/2 | 6 | 267 | 66 | M99×2.0 | 96 |

Specifications

*Total leakage : Pressure 3.0MPa (30.6kgf/cm²) and oil temperature 50°C. *Draw bar pull force : Pressure 4.0MPa (40.8kgf/cm²)

| Model | Piston Dia. mm | Piston stroke mm | Piston Area | | Draw bar | | Max. Operation Pressure MPa (kgf/cm ²) | Max. Speed min ⁻¹ (r.p.m) | Moment of inertia kg·m ² | Net Weight kg | Total leakage ℓ /min |
|-------|----------------|------------------|---------------------------|---------------------------|-------------------|-------------------|--|--------------------------------------|-------------------------------------|---------------|----------------------|
| | | | Push Side cm ² | Pull Side cm ² | Push Side kN(kgf) | Pull Side kN(kgf) | | | | | |
| S1246 | 125 | 15 | 100 | 89 | 38 (3875) | 33 (3365) | 4 (40.8) | 7000 | 0.019 | 12.0 | 3.0 |
| S1552 | 155 | 22 | 161 | 150 | 60 (6118) | 56 (5710) | 4 (40.8) | 6200 | 0.053 | 16.8 | 3.9 |
| S1875 | 180 | 25 | 198 | 183 | 74 (7546) | 69 (7036) | 4 (40.8) | 4700 | 0.095 | 26.0 | 4.2 |
| S2091 | 205 | 30 | 252 | 234 | 94 (9585) | 88 (8973) | 4 (40.8) | 3800 | 0.153 | 33.0 | 4.5 |



**ROTARY
CYLINDER**

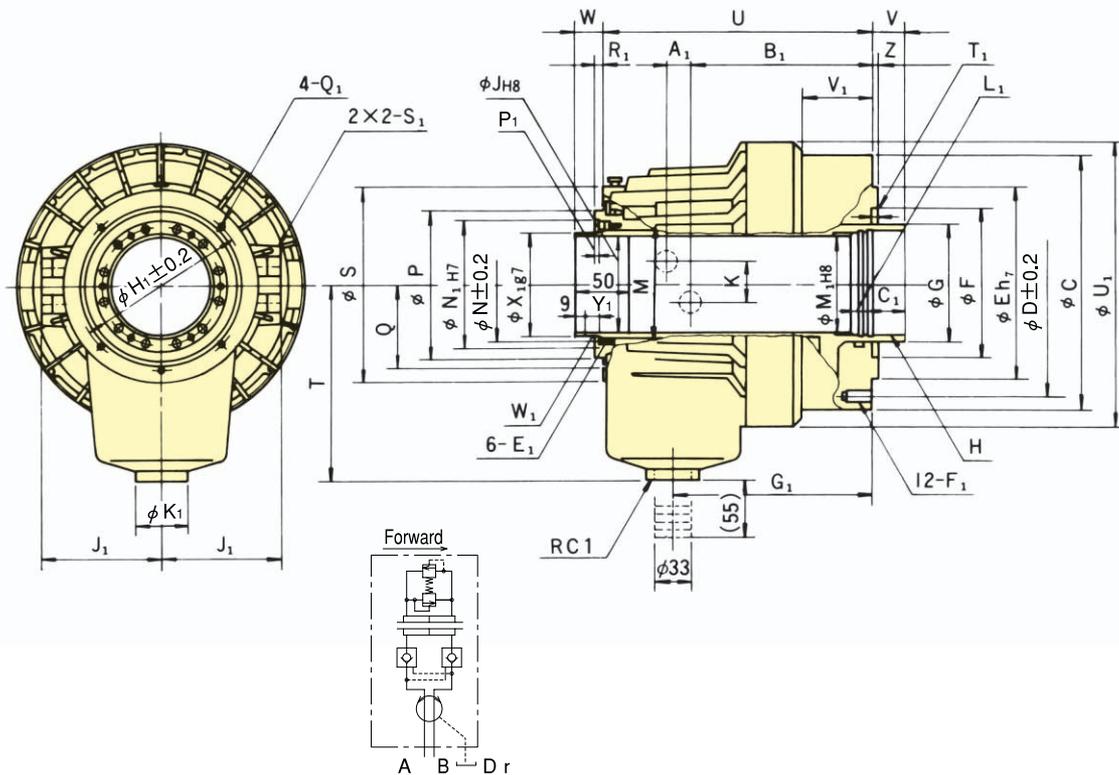
Large Thru-Hole High Speed Hydraulic Cylinder with Open Center S-L series

KITAGAWA standard thru-hole type

- Long piston stroke
- Built-in check valve and relief valve



Dimensional Drawings



Dimensions

| Model | C | D | E | F | G | H | J Thru-hole | K | M | N | P | Q | S | T | U | V max. | V min. | W max. | W min. | Z | A ₁ |
|--------|-----|-----|-----|-----|-----|----------|-------------|----|------|-----|-----|------|-----|-----|-----|--------|--------|--------|--------|---|----------------|
| S1246L | 155 | 130 | 100 | 80 | 65 | M55×2.0 | 46 | 36 | 52.9 | 64 | 85 | 51.5 | 118 | 115 | 200 | 27 | -5 | 57 | 25 | 5 | 11.5 |
| S1552L | 190 | 170 | 130 | 85 | 70 | M60×2.0 | 52 | 36 | 59.6 | 73 | 96 | 57.5 | 137 | 130 | 208 | 29 | -5 | 59 | 25 | 5 | 12 |
| S1875L | 215 | 190 | 160 | 120 | 95 | M85×2.0 | 75 | 36 | 84.6 | 98 | 121 | 70.5 | 166 | 160 | 241 | 35 | -5 | 65 | 25 | 5 | 17.5 |
| S2091L | 240 | 215 | 180 | 140 | 110 | M100×2.0 | 91 | 34 | 99.6 | 108 | 138 | 79 | 182 | 185 | 268 | 45 | -5 | 75 | 25 | 5 | 21 |

| Model | B ₁ | C ₁ | E ₁ depth | F ₁ depth | G ₁ | H ₁ | J ₁ | K ₁ | L ₁ | M ₁ | N ₁ | P ₁ | Q ₁ depth | R ₁ | S ₁ | T ₁ | U ₁ | V ₁ | W ₁ | X ₁ | Y ₁ |
|--------|----------------|----------------|----------------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| S1246L | 147.5 | 30 | M6×9 | M10×20 | 156 | 98 | 76 | 47 | 15 | 50 | 76 | 4 | M5×10 | 6 | RC1/2 | 12 | 200 | 67 | M52×1.5 | 50 | 33 |
| S1552L | 153 | 30 | M6×9 | M10×20 | 162 | 110 | 86 | 47 | 15 | 55 | 85 | 4 | M6×12 | 7 | RC1/2 | 12 | 220 | 68 | M58×1.5 | 56 | 33 |
| S1875L | 169.5 | 35 | M6×9 | M10×20 | 182.5 | 155 | 101 | 47 | 15 | 80 | 108 | 4 | M6×12 | 7 | RC1/2 | 12 | 242 | 74 | M84×2.0 | 81 | 33 |
| S2091L | 188 | 35 | M6×14 | M12×24 | 203 | 165 | 110 | 47 | 15 | 95 | 120 | 4 | M6×12 | 7 | RC1/2 | 12 | 267 | 86 | M99×2.0 | 96 | 38 |

Specifications *Total leakage : Pressure 3.0MPa (30.6kgf/cm²) and oil temperature 50°C. *Draw bar pull force : Pressure 4.0MPa (40.8kgf/cm²)

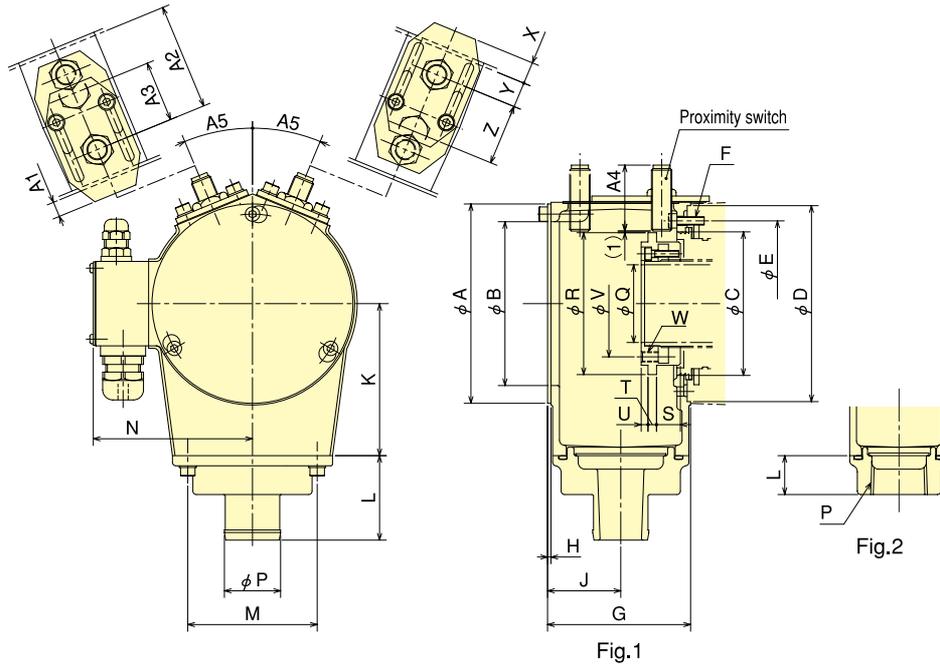
| Model | Piston Dia. mm | Piston stroke mm | Piston Area | | Draw bar | | Max. Operation Pressure | Max. Speed | Moment of inertia | Net Weight | Total leakage |
|--------|----------------|------------------|---------------------------|---------------------------|-------------------|-------------------|----------------------------|---------------------------|-------------------|------------|---------------|
| | | | Push Side cm ² | Pull Side cm ² | Push Side kN(kgf) | Pull Side kN(kgf) | MPa (kgf/cm ²) | min ⁻¹ (r.p.m) | kg·m ² | kg | ℓ / min |
| S1246L | 125 | 32 | 100 | 89 | 38 (3875) | 33 (3365) | 4 (40.8) | 7000 | 0.022 | 12.8 | 3.0 |
| S1552L | 155 | 34 | 161 | 150 | 60 (6118) | 56 (5710) | 4 (40.8) | 6200 | 0.058 | 17 | 3.9 |
| S1875L | 180 | 40 | 198 | 183 | 74 (7546) | 69 (7036) | 4 (40.8) | 4700 | 0.100 | 26.8 | 4.2 |
| S2091L | 205 | 50 | 252 | 234 | 94 (9585) | 88 (8973) | 4 (40.8) | 3800 | 0.160 | 34.1 | 4.5 |



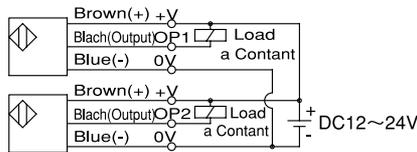
**ROTARY
CYLINDER**

Coolant Collector

Dimensional Drawings

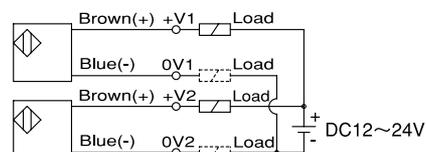


Proximity Switch Type 1
manufactured by B & Plus KK
BES516-329-E3R



Circuit Diagram for Proximity Switch Output
NPN A Contact (Normally open)

Proximity Switch Type 2
manufactured by Yamatake
FL7M-3J6HD



Circuit Diagram for Proximity Switch Output
DC two-wire system A Contact (Normally open)
Lead = Both sides connectable

Dimensions

*The under bodies of CSK12Y2, CSK14Y2, CSK16Y2, CSK17Y2, CSK18Y2, CSK21Y2, and CS-25HW are based on Fig. 2.

| Model | Cylinder | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q |
|----------|----------|-----|-----|-----|-----|-----|------|-------|-----|------|-----|----|----|-------|-------|-------|
| CS-S10BN | S1036 | 118 | 97 | 73 | 104 | 88 | 4-M5 | 84 | 2 | 43 | 90 | 50 | 76 | 93.5 | 33 | 36 |
| CS-S12BN | S1246 | 118 | 97 | 85 | 116 | 98 | 4-M5 | 84 | 2 | 43 | 90 | 50 | 76 | 93.5 | 33 | 46 |
| CS-S15BN | S1552 | 136 | 114 | 96 | 135 | 110 | 4-M6 | 84 | 2 | 43 | 100 | 50 | 76 | 103.5 | 33 | 52 |
| CS-S18BN | S1875 | 181 | 154 | 121 | 164 | 155 | 4-M6 | 88 | 2 | 46 | 140 | 50 | 76 | 126.5 | 33 | 75 |
| CS-S20BN | S2091 | 181 | 154 | 138 | 180 | 165 | 4-M6 | 104 | 2 | 44 | 140 | 50 | 76 | 126.5 | 33 | 91 |
| CSK12Y2 | SS1246K | 118 | 97 | 85 | 116 | 98 | 4-M5 | 62 | 2 | 32 | 90 | 23 | 76 | 92 | Rc 1 | 46 |
| CSK14Y2 | SS1453K | 136 | 114 | 96 | 135 | 110 | 4-M6 | 84 | 2 | 35 | 100 | 23 | 76 | 102 | Rc 1 | 53 |
| CSK16Y2 | SS1666K | 171 | 144 | 111 | 154 | 145 | 4-M6 | 88 | 2 | 38 | 135 | 23 | 76 | 120 | Rc 1 | 66 |
| CSK17Y2 | SS1775K | 181 | 154 | 121 | 164 | 155 | 4-M6 | 71 | 2 | 37.5 | 140 | 23 | 76 | 125 | Rc 1 | 75 |
| CSK18Y2 | SS1881K | 191 | 165 | 126 | 175 | 166 | 4-M6 | 88 | 2 | 38 | 145 | 23 | 76 | 130 | Rc 1 | 81 |
| CSK21Y2 | SS2110K | 229 | 200 | 160 | 210 | 201 | 4-M6 | 84 | 2 | 35 | 163 | 23 | 76 | 150 | Rc 1 | 106 |
| CS-F08BN | F0933H | 118 | 97 | 73 | 104 | 88 | 4-M5 | 84 | 2 | 43 | 90 | 50 | 76 | 93.5 | 26 | 33 |
| CS-25HW | F2511H | 232 | 200 | 179 | - | 206 | 4-M6 | 101.6 | 1.6 | 51.6 | 180 | - | 76 | 148.5 | Rc3/4 | 117.5 |

| Model | Cylinder | R | S | T | U | V | W | X _{max.} | Y | Z | A1 _{max.} | A2 | A3 | A4 | A5 | Proximity switch |
|----------|----------|-----|------|----|------|------|------|-------------------|------|------|--------------------|------|------|----|-------|------------------|
| CS-S10BN | S1036 | 84 | 14 | 5 | 4 | 52 | 4-M6 | 13 | 15 | 36 | 9 | 63 | 36 | 39 | 22.5° | TYPE.1 |
| CS-S12BN | S1246 | 84 | 14 | 5 | 4 | 63 | 4-M6 | 13 | 15 | 36 | 9 | 63 | 36 | 39 | 22.5° | TYPE.1 |
| CS-S15BN | S1552 | 99 | 14 | 5 | 4 | 70 | 4-M6 | 13 | 15 | 36 | 9 | 63 | 36 | 39 | 22.5° | TYPE.1 |
| CS-S18BN | S1875 | 144 | 14 | 5 | 4 | 95 | 4-M6 | 15 | 15 | 39 | 15 | 71 | 39 | 39 | 15° | TYPE.1 |
| CS-S20BN | S2091 | 144 | 21 | 5 | 2 | 108 | 4-M6 | 8 | 22 | 41 | 10 | 82 | 41 | 39 | 15° | TYPE.1 |
| CSK12Y2 | SS1246K | 84 | 10 | 5 | 8 | 63 | 4-M6 | 10 | 15 | 27 | 7 | 42 | 27 | 35 | 22.5° | TYPE.2 |
| CSK14Y2 | SS1453K | 99 | 4 | 5 | 11.5 | 70 | 4-M6 | 13 | 15 | 36 | 10 | 64 | 36 | 35 | 20° | TYPE.2 |
| CSK16Y2 | SS1666K | 134 | 12.5 | 5 | 4 | 85.5 | 4-M6 | 8 | 15 | 55 | 7 | 70 | 55 | 35 | 15° | TYPE.2 |
| CSK17Y2 | SS1775K | 144 | 14 | 5 | 4 | 95 | 4-M6 | 13.5 | 14.5 | 32.5 | 13.5 | 54.5 | 32.5 | 35 | 15° | TYPE.2 |
| CSK18Y2 | SS1881K | 155 | 12.5 | 5 | 4 | 100 | 4-M6 | 8 | 15 | 55 | 7 | 70 | 55 | 35 | 15° | TYPE.2 |
| CSK21Y2 | SS2110K | 190 | 14 | 5 | 4 | 130 | 4-M6 | 13 | 15 | 48 | 9 | 63 | 48 | 35 | 12° | TYPE.2 |
| CS-F08BN | F0933H | 72 | 25 | 7 | - | - | - | 13 | 15 | 36 | 9 | 63 | 36 | 39 | 22.5° | TYPE.1 |
| CS-25HW | F2511H | 192 | 12 | 12 | - | - | - | 18 | 17 | 52 | 11.4 | 85 | 36 | 39 | 22.5° | TYPE.1 |