

Metal Washers / Slotted Hole Washers

Shape Selectable Flat / Pilot

Metal Washers

RoHS 10

| Part Number | Material | Surface Treatment |
|-------------|------------|----------------------------|
| KWSC | S45C | - |
| KWSB | Equivalent | Black Oxide |
| KWSM | Equivalent | Electroless Nickel Plating |
| KWSS | SUS304 | - |

A $(D-V) / 2 \geq 3$

B $X \geq V / 2 + 2$
 $X \leq D / 2 - 1$

C $X \geq V + 4$
 $X \leq D - 2$

D $X \geq V + 2, V \leq D / 2 - 4$
 $X \leq D - V - 3$

E $V \leq D / 2 - 4$
 $X \leq (D - V) / 2 - 1.5$

$\sqrt{25} / (\sqrt{6.3})$

| Part Number | Shape Selection | D | V 0.5mm Increment | X 0.1mm Increment | T 0.1mm Increment | Unit Price | | | | | | | | | | | | | | | | | | | |
|------------------------------|-----------------------|------------------------------|-------------------------|-------------------------|-------------------------|------------|---|---|---|---|------|---|---|---|---|------|---|---|---|---|------|---|---|---|---|
| | | | | | | KWSC | | | | | KWSB | | | | | KWSM | | | | | KWSS | | | | |
| | | | | | | A | B | C | D | E | A | B | C | D | E | A | B | C | D | E | A | B | C | D | E |
| KWSC KWSB KWSM KWSS | A B C D E | 10.0-20.5 0.5mm Increment | 3-30 | 4.0-48.0 | 3.0-5.0 | | | | | | | | | | | | | | | | | | | | |
| | | 21-30 1mm Increment | | | 5.1-10.0 | | | | | | | | | | | | | | | | | | | | |
| | | 31-40 1mm Increment | | | 3.0-5.0 | | | | | | | | | | | | | | | | | | | | |
| | | 41-50 1mm Increment | | | 5.1-10.0 | | | | | | | | | | | | | | | | | | | | |

Ordering Example: Part Number - Shape - D - V - X - T
 KWSB - B - D12.0 - V5 - X5.0 - T3.0

Alterations: Part Number - Shape - D - V - T - (HH)
 KWSB - A - D20 - V10 - T3 - HH

| Alteration | Code | Spec. |
|------------|------|--|
| | HH | Hardens the washer in the shape of A. [H] Hardness: 45 - 50HRC [Ordering Code] HH [Applicable to] KWSB and KWSC only. [Deformation may occur in some cases due to] heat treatment. |

Slotted Hole Washers

RoHS 10

| Type | Material | Surface Treatment |
|------|-----------------|----------------------------|
| WLM | S45C Equivalent | Electroless Nickel Plating |
| WLS | SUS304 | - |

Flat

Pilot

$\sqrt{25} / (\sqrt{6.3})$

Flat

| Part Number | Type | No. | D | T | K | W | Applicable Screw | Unit Price | |
|-------------|------|-----|----|-----|----|-----|------------------|------------|-----|
| | | | | | | | | WLM | WLS |
| WLM WLS | 3 | 3 | 18 | 3 | 5 | 3.5 | M3 | | |
| | | 4 | 20 | | 6 | 4.5 | M4 | | |
| | | 5 | 22 | | 7 | 5.5 | M5 | | |
| | | 6 | 26 | | 8 | 6.6 | M6 | | |
| | | 8 | 30 | | 10 | 9 | M8 | | |
| | | 10 | 38 | | 12 | 11 | M10 | | |
| 12 | 46 | 16 | 14 | M12 | | | | | |

Pilot

| Part Number | Type | No. | D | D1 | T | K | W | Applicable Screw | Unit Price | |
|--------------|------|-----|----|----|---|----|-----|------------------|------------|------|
| | | | | | | | | | WLHM | WLHS |
| WLHM WLHS | 3 | 4 | 20 | 14 | 3 | 6 | 4.5 | M4 | | |
| | | 5 | 22 | 16 | | 7 | 5.5 | M5 | | |
| | | 6 | 26 | 18 | | 8 | 6.6 | M6 | | |
| | | 8 | 30 | 22 | | 10 | 9 | M8 | | |
| | | 10 | 38 | 28 | | 12 | 11 | M10 | | |
| | | 12 | 46 | 36 | | 16 | 14 | M12 | | |

Ordering Example: Part Number
 WLM5
 WLHS4

