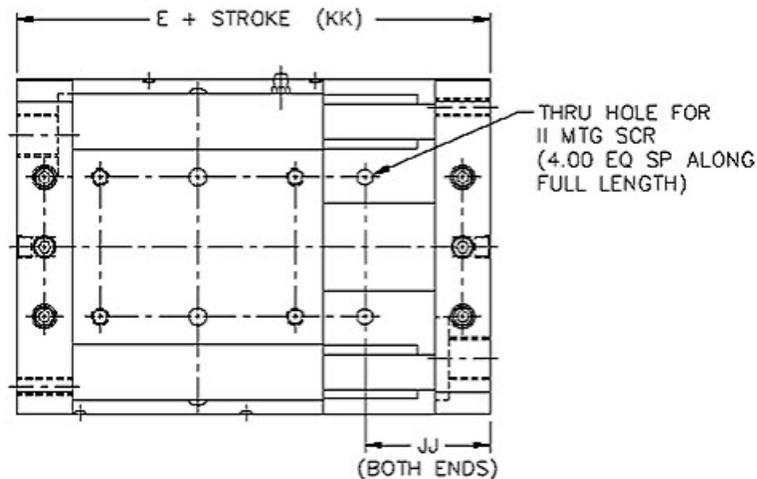




High Load Ultran® Mounting Holes

This technical tip explains the High Load Ultran® mounting hole calculation shown on page 5 of the UHL catalog in more detail.



Bore	E	II
1-1/4" (12)	5.875	#10
1-1/2" (17)	6.500	1/4"
Where II is size of Mounting Screw Above		

Mounting Hole Calculation:

$$JJ = \frac{KK - (\text{INT}(\frac{KK}{4}) \times 4)}{2}$$

$\text{INT}(\frac{KK}{4})$ means to take the integer (the number to the left of the decimal place) of $\frac{KK}{4}$, where $KK = (E + \text{Stroke})$

If Result <1.85, Add 2 to the result. **Note:** The second formula in the catalog is correct, but it has been found you get the same result by just adding 2 to the result, which is easier than redoing the new calculation.

For Example: For a 1-1/4" bore unit with an 8 inch stroke, JJ is calculated as follows: >

$$KK = (E + \text{Stroke}) = (5.875 + 8) = 13.875, \text{ so } JJ = \frac{13.875 - (\text{INT} \frac{13.875}{4}) \times 4}{2}$$

$$\text{INT} \frac{13.875}{4} = \text{INT} (3.468) = 3, \text{ so } JJ = \frac{13.875 - (3 \times 4)}{2} = \frac{13.875 - (12)}{2} = 0.938$$

JJ = 0.9375, **which is < 1.85**. So, JJ = (2 + 0.9375) = 2.938

For a 1-1/2" bore unit with a 9.25 inch stroke, JJ is calculated as follows:

$$KK = (E + \text{Stroke}) = (6.500 + 9.25) = 15.75, \text{ so } JJ = \frac{15.75 - (\text{INT} \frac{15.75}{4}) \times 4}{2} \text{ and}$$

$$\text{INT} \frac{15.75}{4} = \text{INT} (3.938) = 3, \text{ so } JJ = \frac{15.75 - (3 \times 4)}{2} = \frac{15.75 - (12)}{2} = 1.875$$

JJ = 1.875, **which is > 1.85**, so JJ = 1.875

Sets of Mounting Holes

The following formula can be used to calculate how many sets of mounting holes will be required for any given stroke length.

$$\text{Sets of Mounting Holes} = (\text{INT} \frac{KK - 1.375}{4}) + 1$$

If the second formula is used to calculate JJ (When JJ < 1.85), use the following formula:

$$\text{Sets of Mounting Holes} = (\text{INT} \frac{KK - 1.375}{4})$$

For example, if we use the first example from page 1, the number of sets of mounting holes would be found by:

$$\text{Sets of Mounting Holes} = (\text{INT} \frac{KK - 1.375}{4}) = \text{INT} (3.125) = 3 \text{ sets of Mounting Holes.}$$

The information presented is in Bimba's best engineering opinion and should be used for reference only. Recommendations derived should be verified under actual operating conditions. Bimba reserves the right to change specifications without prior notice.

Bimba Manufacturing Company
 Monee, IL 60449-0068
 Telephone: 708.534.8544
 Email: cs@bimba.com
 www.bimba.com
 Rev Level: 0

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