

Piston and Cylinder Set

Model: 2K S 444 - CP (stock) & 2K 444 - CP (custom)

Stock Strokes (in): 0.5, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0

Dimensional

Bore Diameter: 1.750 in

Piston Area: 2.405 in²

Supply: Clean, Dry, Unlubricated Air

Pressure Range: Full Vacuum to 100 psi

(0.2 psi differential required for actuation)

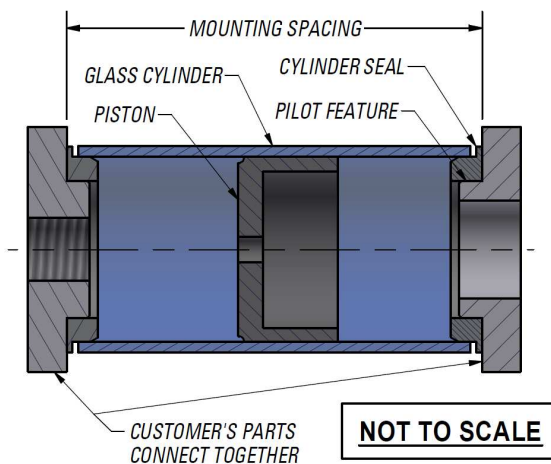
Filtration: 5-micron particle filter (coalescing filter recommended)

Mounting

Using Airpot cylinder seals: Stock configurations come with silicone cylinder seals (optional with custom parts). They are an easy and reliable way to mount and seal to each end of the glass cylinder. Make two customer's parts, one for each end of the glass cylinder. These can be designed to have a threaded port, open vent hole or dead ended, depending on the application requirements. Connect two customer's parts together with a baseplate, tie rods, or structural tube.

Customer's Part Pilot Feature: Ø1.250 ±.002 x .250 long

Mounting Spacing = Stroke + 1.633



For more information, see drawing: CYLINDER SEAL TABLE

If using another method to mount the glass, cylinder seals can be removed and discarded.

Piston Friction Coefficient

Approximately 0.2 (static & dynamic)

Piston Leak <3.6 standard Liters /minute at 50 psi

<15.0 standard Liters /minute at 100 psi

Cycle Life

The very long cycle life of this product depends on how the cylinder is used as well as the requirements of your application. Leak will increase slowly as the piston wears with high number of cycles. High loads and especially high side loads along with cycling can increase friction. Typically, cylinders will last from 1 to 25 million cycles before they are replaced.

Environment

Temperature Range:

With standard cylinder seals: -20 °C to +100 °C

With -ET (extreme temperature) cylinder seals: -40 °C to +150 °C

Without cylinder seals: -40 °C to +150 °C

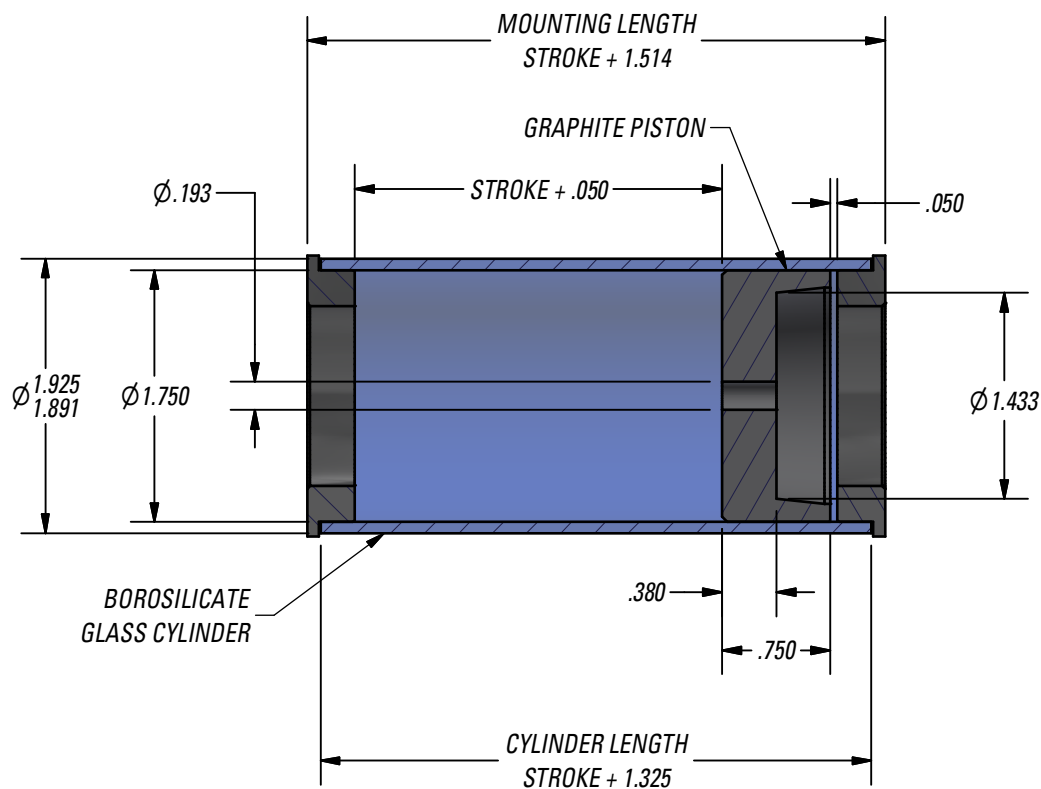
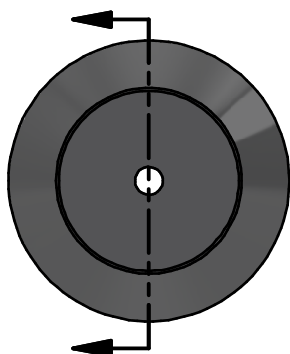
Mass

Cylinder Mass (g) = 18.6 x glass length

Piston Mass (g) = 34.6

Cylinder Seal Mass (g) = 9.3





STOCK
STROKE
LENGTHS

0.5
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0

ADDITIONAL OPTIONS

1. Add "-ET" after all other options for
extreme temperature option.

Part Number:

2K S 444 - □ CP

→ STROKE LENGTH

Airpot®

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US

203-846-2021
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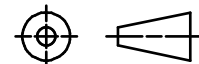
PART

2K S 444 - CP

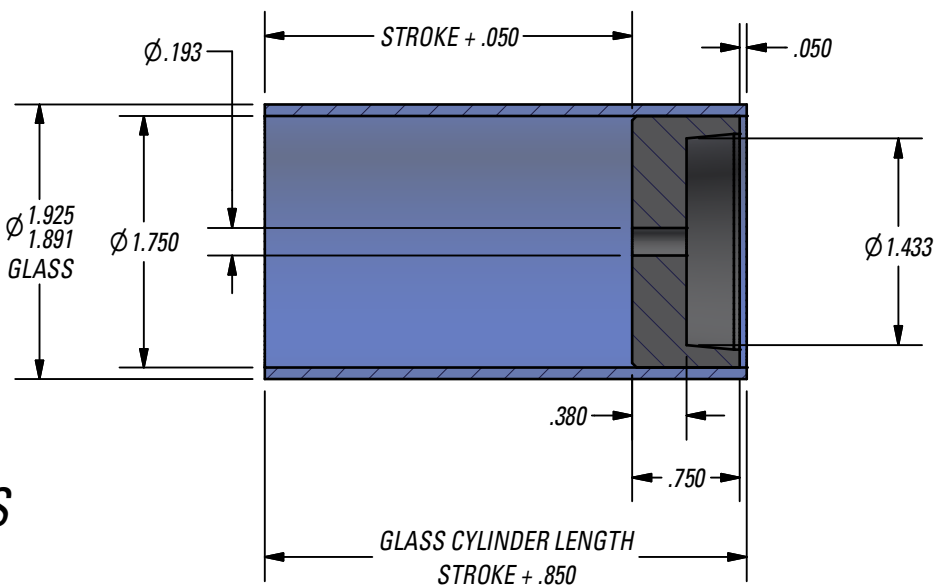
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STOCK 2K444 PISTON/CYLINDER SET

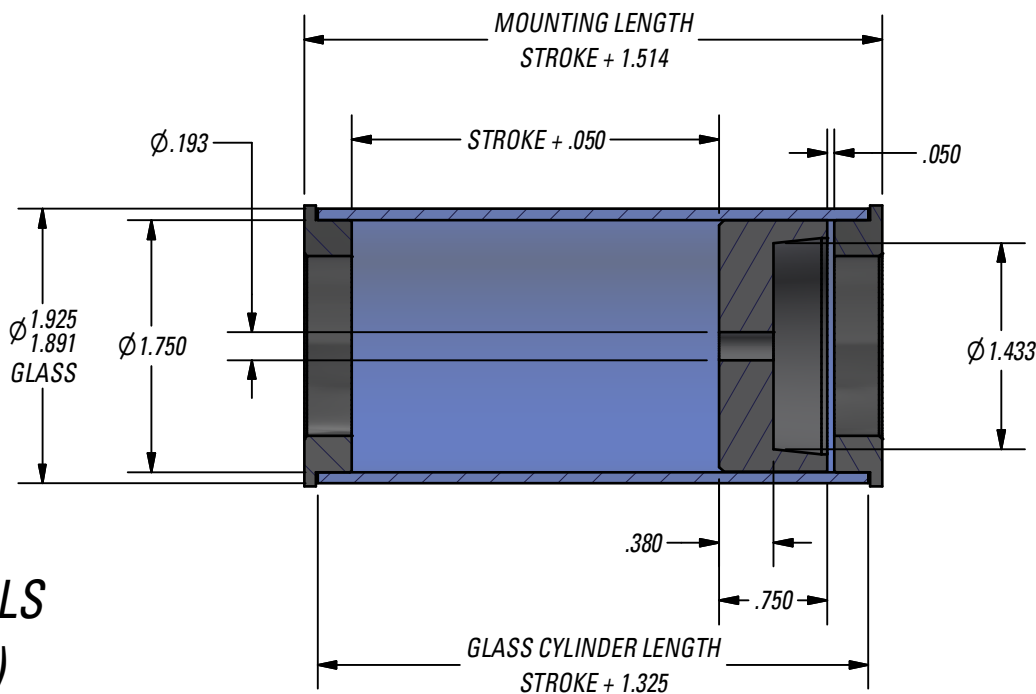
UNITS IN INCHES



3RD ANGLE PROJECTION



**WITHOUT CYLINDER SEALS
(LEAVE OPTION BLANK)**



WITH CYLINDER SEALS
(OPTION CODE: J2)

1. If using cylinder seals, add "-ET" after all other options for extreme temperature cylinder seals.

Part Description:



"J2" FOR CYLINDER SEALS
 STROKE LENGTH

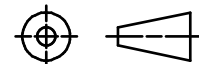
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PART

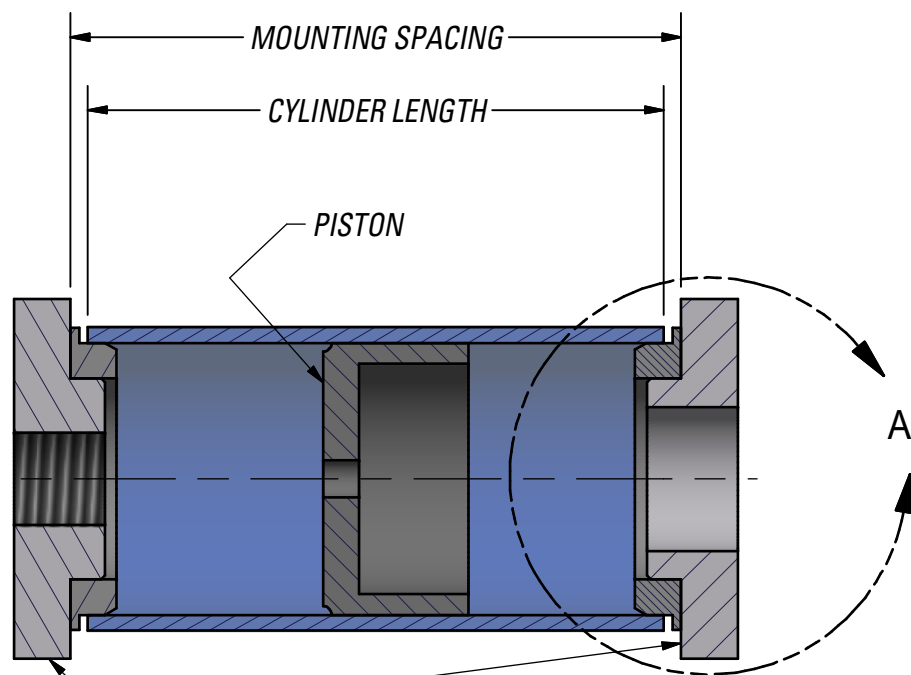
2K 444 - CP

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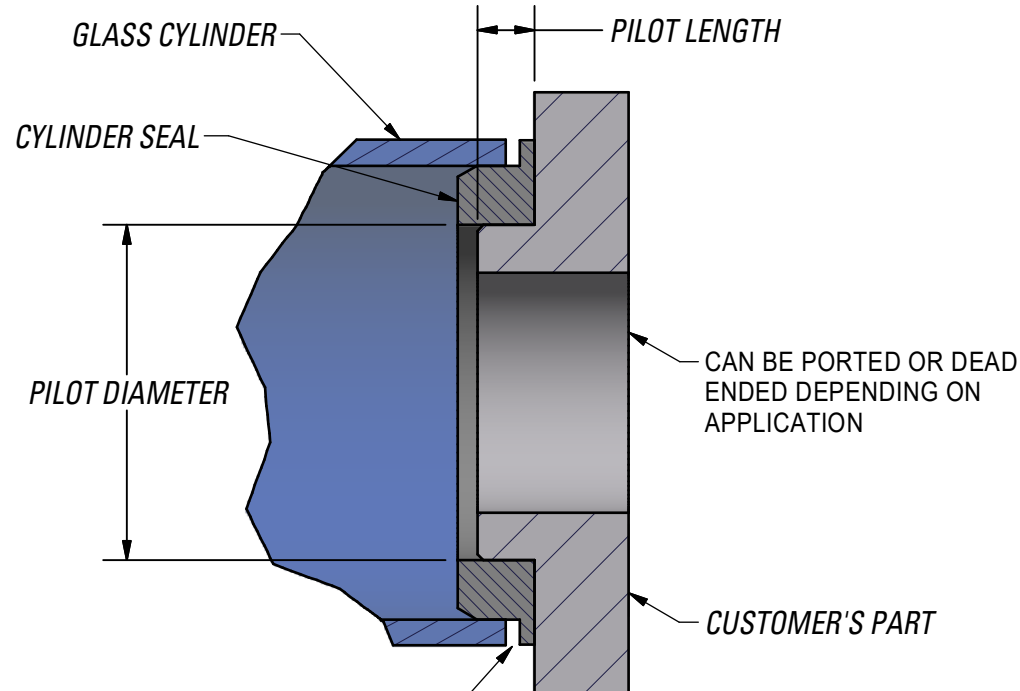


3RD ANGLE PROJECTION

CUSTOM 2K444 PISTON/CYLINDER SET | UNITS IN INCHES



CONNECT TOGETHER WITH A STRUCTURAL
TUBE, TIE-RODS, OR BASE PLATE



GAP SO THAT GLASS CYLINDER
IS NOT SQUEEZED AXIALLY
(GAP EXAGGERATED FOR CLARITY)

DETAIL A

MODEL	2K56 and 2KS56	2K95 and 2KS95	2K160 and 2KS160	2K240 and 2KS240	2K325 and 2KS325	2K444 and 2KS444
BORE	.220 [5.6]	.366 [9.3]	.627 [15.9]	.945 [24.0]	1.281 [32.5]	1.750 [44.5]
PILOT DIAMETER	.154 ±.001 [3.91 ±0.03]	.251 ±.001 [6.38 ±0.03]	.381 ±.001 [9.68 ±0.03]	.698 ±.001 [17.73 ±0.03]	1.040 ±.002 [26.42 ±0.05]	1.250 ±.002 [31.75 ±0.05]
PILOT LENGTH	.085 ±.004 [2.2 ±0.1]	.170 ±.004 [4.3 ±0.1]	.090 ±.004 [2.3 ±0.1]	.118 ±.004 [3.0 ±0.1]	.300 ±.006 [7.6 ±0.2]	.250 ±.006 [6.4 ±0.2]
MOUNTING SPACING	STROKE + .525 [STROKE + 13.34]	STROKE + .865 [STROKE + 21.97]	STROKE + .885 [STROKE + 22.48]	STROKE + .925 [STROKE + 23.50]	STROKE + 1.633 [STROKE + 41.48]	STROKE + 1.514 [STROKE + 38.46]
CYLINDER LENGTH	STROKE + .445 [STROKE + 11.30]	STROKE + .670 [STROKE + 17.02]	STROKE + .800 [STROKE + 20.32]	STROKE + .840 [STROKE + 21.34]	STROKE + 1.350 [STROKE + 34.29]	STROKE + 1.325 [STROKE + 33.66]



Use silicone rubber Airpot Cylinder Seals to easily mount and seal
Airpot glass cylinders.

For models 56, 95, 325 and 444, put the seal first on the cylinder then
push onto the pilot. For models 160 and 240, put the seal first on the
pilot, then push the cylinder over the seal.

Airpot®

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DRAWING NAME
CYLINDER SEAL TABLE

DATE
11/13/2012

UNLESS NOTED, ALL DIMENSIONS: IN [mm]

DRAWING NUMBER
CYLINDER SEAL TABLE

REV
0206AF