



# CUSHION-START · SLOW RETURN

## CUSHION-START KINECHEKS

 The CUSHION-START® KINECHEK is a combination impact absorber and hydraulic check. The impact absorbing feature called “CUSHION-START” is a safeguard for those applications where a fast moving machine element must be abruptly decelerated, then permitted to continue its movement at a constant speed. The first portion of the unit’s stroke is used for cushioning, while the remaining stroke will control the speed of any load with the same uniformness as regular KINECHEKS. The CUSHION-START feature is normally supplied only in the SLIMLINE family of units. The data on the specification chart, column 4, indicates the kinetic (moving) energy that the CUSHION-START can gently decelerate before beginning the constant speed portion of the stroke.

## SLOW RETURN KINECHEKS

 The SLOW RETURN KINECHEK will control the speed of a load pushing on the plunger rod exactly the same as a regular KINECHEK. However, the automatic return action of the plunger rod is slowed by a fixed restricting orifice added to the unit’s internal flow passages. The time required for the plunger rod to extend ranges from 6 seconds to 22 seconds per inch of stroke for the models listed. This return time depends upon the orifice size built into the unit. Other times are available upon special request. The time ranges listed for each model on the Specification Chart, Column 7, are necessary to accommodate manufacturing tolerances, since the restricting orifice is not adjustable.

## SPECIFICATIONS

| 1   | 2               | 3       | 4  | 5   | 6                           | 7   | 8  | 9  | 10  |              |              |
|---|-----------------|---------|--|---|-----------------------------|---|--|--|---|--------------|--------------|
| Model No. of Kinechek   | Description     | Stroke  | Max. Energy Absorption Capacity Per Stroke | Minimum Force That Will Operate Plunger Full Stroke | Plunger Return Spring Force | Time Req'd for Plunger to Return Outward if Released Suddenly | Load That Will Push Plunger 1 in. Per Sec. at Fastest Adjustment | Load That Will Push Plunger 4 in. Per Sec. at Fastest Adjustment | Time for Full Stroke of Plunger at Slowest Adjustment |              |              |
| <b>CUSHION-START</b>  |                 |         |  |   |                             |   |  |  | 1000 lb. Load   | 500 lb. Load | 100 lb. Load |
| Capacity: 1200 lbs. Max. – Including Impact When Load Strikes Plunger |                 |         |  |   |                             |   |  |  |   |              |              |
| 1102-31-1/2   | .18 in. Cushion | 1/2 in. | 60 in. lbs.                                | 5 lbs.  | 4 lbs.                      | .031 sec.   | 11 lbs.  | 33 lbs.  | 5 sec.  | 11 sec.      | 96 sec.      |
| 1102-31-1   | .25 in. Cushion | 1 in.   | 120 in. lbs.                               |   |                             | .063 sec.   |  |  | 11 sec.   | 26 sec.      | 3.7 min.     |
| 1102-31-2   | .34 in. Cushion | 2 in.   | 220 in. lbs.                               |   |                             | .106 sec.   |  |  | 24 sec.   | 58 sec.      | 8.3 min.     |
| 1102-31-3   | .62 in. Cushion | 3 in.   | 260 in. lbs.                               |   |                             | .235 sec.   |  |  | 35 sec.   | 83 sec.      | 11.8 min.    |
| <b>SLOW RETURN</b>  |                 |         |  |   |                             |   |  |  | 1000 lb. Load   | 500 lb. Load | 100 lb. Load |
| Capacity: 1200 lbs. Max. – Including Impact When Load Strikes Plunger |                 |         |  |   |                             |   |  |  |   |              |              |
| 1302A-31-1/2  |                 | 1/2 in. |  | 5 lbs.  | 4 lbs.                      | 6 to 10*  | 11 lbs.  | 33 lbs.  | 8 sec.  | 18 sec.      | 150 sec.     |
| 1302B-31-1/2  |                 |         |  |   |                             | 10 to 16*   |  |  |   |              |              |
| 1302C-31-1/2  |                 |         |  |   |                             | 16 to 22*   |  |  |   |              |              |
| 1302A-31-1  |                 | 1 in.   |  | 5 lbs.  | 4 lbs.                      | 6 to 10*  | 11 lbs.  | 33 lbs.  | 15 sec.   | 35 sec.      | 5 min.       |
| 1302B-31-1  |                 |         |  |   |                             | 10 to 16*   |  |  |   |              |              |
| 1302C-31-1  |                 |         |  |   |                             | 16 to 22*   |  |  |   |              |              |
| 1302A-31-2  |                 | 2 in.   |  | 5 lbs.  | 4 lbs.                      | 6 to 10*  | 11 lbs.  | 33 lbs.  | 30 sec.   | 70 sec.      | 10 min.      |
| 1302B-31-2  |                 |         |  |   |                             | 10 to 16*   |  |  |   |              |              |
| 1302C-31-2  |                 |         |  |   |                             | 16 to 22*   |  |  |   |              |              |
| 1302A-31-3  |                 | 3 in.   |  | 5 lbs.  | 4 lbs.                      | 6 to 10*  | 11 lbs.  | 33 lbs.  | 45 sec.   | 105 sec.     | 15 min.      |
| 1302B-31-3  |                 |         |  |   |                             | 10 to 16*   |  |  |   |              |              |
| 1302C-31-3  |                 |         |  |   |                             | 16 to 22*   |  |  |   |              |              |

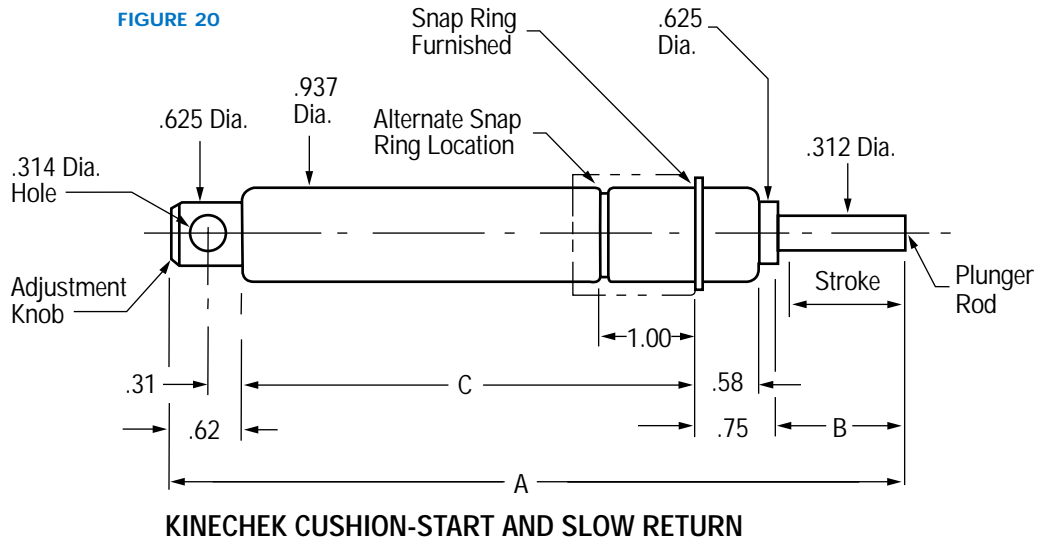
135°F Maximum Continuous Operating Temperature (All models)

\*Outward Return Rate of Plunger at Slowest Adjustment (Seconds per inch of Stroke)

# CUSHION-START · SLOW RETURN

## DIMENSIONS AND WEIGHTS

| Model No.    | Stroke  | Weight   | A     | B     | C    |
|--------------|---------|----------|-------|-------|------|
| 1__ _-31-1/2 | 1/2 in. | 11.5 oz. | 6.33  | .687  | 4.28 |
| 1__ _-31-1   | 1 in.   | 12.5 oz. | 7.83  | 1.187 | 5.28 |
| 1__ _-31-2   | 2 in.   | 16.5 oz. | 10.87 | 2.187 | 7.31 |
| 1__ _-31-3   | 3 in.   | 19.2 oz. | 13.87 | 3.187 | 9.31 |



**MOUNTING BLOCK NO.  
A10031 (SLIMLINE)**

