

**ACE**<sup>®</sup>

*New Generation*

# **SCP<sup>2</sup> PET SHOCK ABSORBERS**

*For PET Container Industry*



***Ideal for Stretch Rod and Mold Applications***

***Increase Cycle Rates  
Increase System Performance  
Reduce Damage-Causing Impact Forces***



## Ideal for Stretch Rod and Mold Applications



Model SCP 650ML-1-QCM-FG  
Quick-Change Mount Shock  
Shown actual size

### PET Shock Absorber Benefits

- Increased production
- Increased system performance
- Increased shock absorber life
- Reduced downtime
- Reduced reaction forces
- Reduced cross contamination issues with H1 oil
- Reduced component wear
- Reduced damage-causing impact forces
- Solves previous form and fit issues
- Lifetime warranty against material and workmanship
- Highly cost-competitive

**ACE Controls now offers a NEW GENERATION of industrial shock absorbers** for the PET container industry. These durable models are ideally suited for stretch rod and mold applications on Sidel and KRONES production machines.

This versatile line of ACE PET shock absorbers includes the dual benefits of soft contact and self-compensating performance, allowing for reaction to changing conditions without adjustment. In addition, the effective weight is now configurable, adding even more application capability to these rugged performers.

PET shock absorbers from ACE include H1 food grade oil, USDA, FDA, and NSF approved. Numerous models now include a rear female hex design for ease and speed of installation.

ACE PET shock absorbers allow production machinery to run faster and longer with considerably reduced reaction forces, reduced component wear and reduced downtime.



### Lifetime Warranty

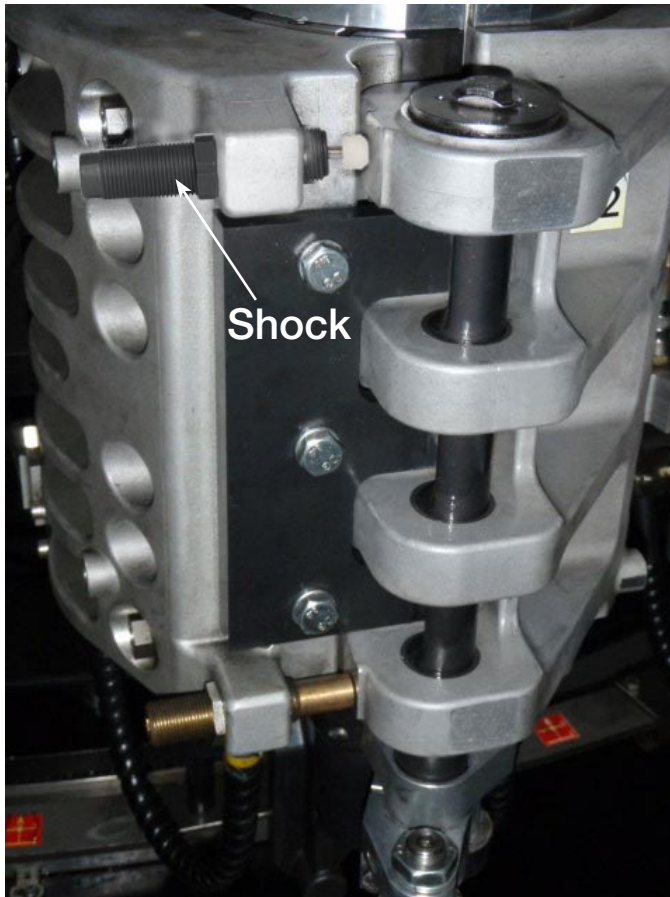
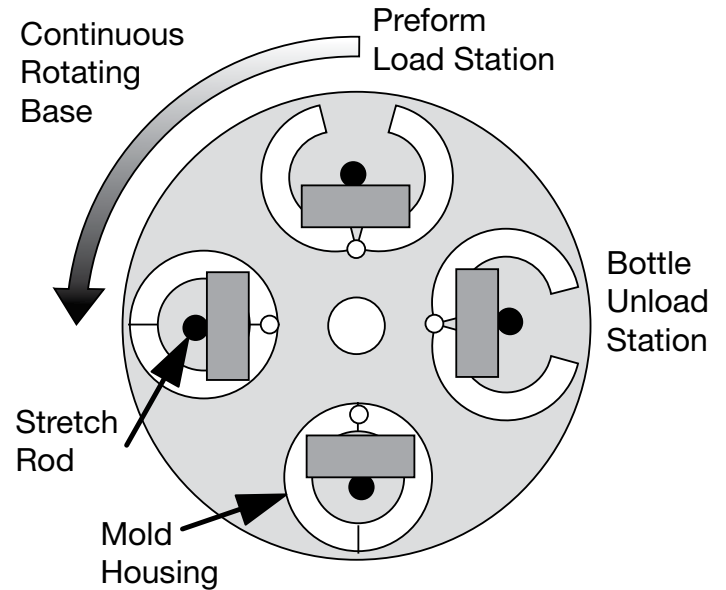
ACE Controls Inc. products are guaranteed to be free of defects in materials and workmanship. ACE will repair or replace any of its products determined to have a defect in materials or workmanship at any time for the life of the product.

### PET Shock Absorber Features

- Initial soft-contact
- Fast through-stroke time
- Quick change capability on SCP 650ML-1-QCM-FG model
- Rugged design to handle stretch rod applications
- Hardened steel high pressure inner tube
- Effective weight is now configurable
- H1 food grade oil, USDA, FDA, and NSF approved

## Machine Type and Applications

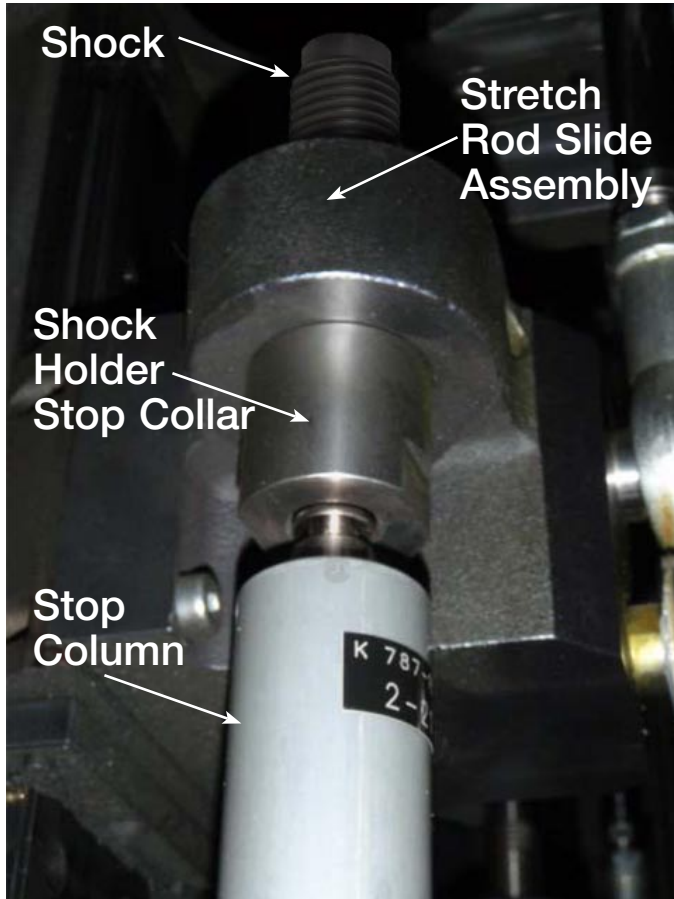
- Machines have a carousel style rotating base.
- They can have from 4 to 48 Mold stations.
- The mold accepts a heated PET preform, closes and engages a shock.
- The stretch rod stretches the preform and then strikes the shock at end of stroke.
- After the bottle has been sized, the stretch rod is then retracted. On some machines there is a shock for the up direction.
- Mold opens and the bottle is ejected
- Shock applications are the mold close, stretch rod down and stretch rod up positions on some machines



Mold Shown in Closed and Locked Position

The application image on the left shows the mold in the closed and locked position. In this application, the shock absorber is mainly used as a snubber. The shock tightens any slack in the mechanical linkages and prevents the mold halves from hammering each other.

## Machine Type and Applications Continued

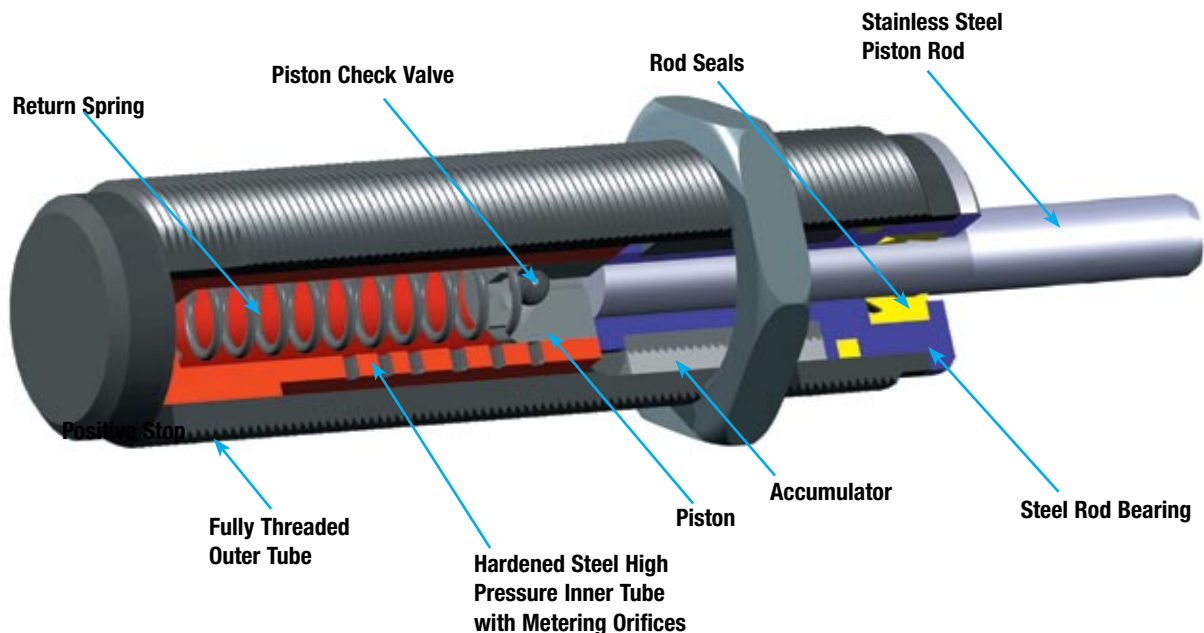


The PET application image on the left shows the stretch rod slide, shock absorber, shock holder and in this case a height stop column.

In this particular application, the machine only has a stretch down and a mold shock absorber

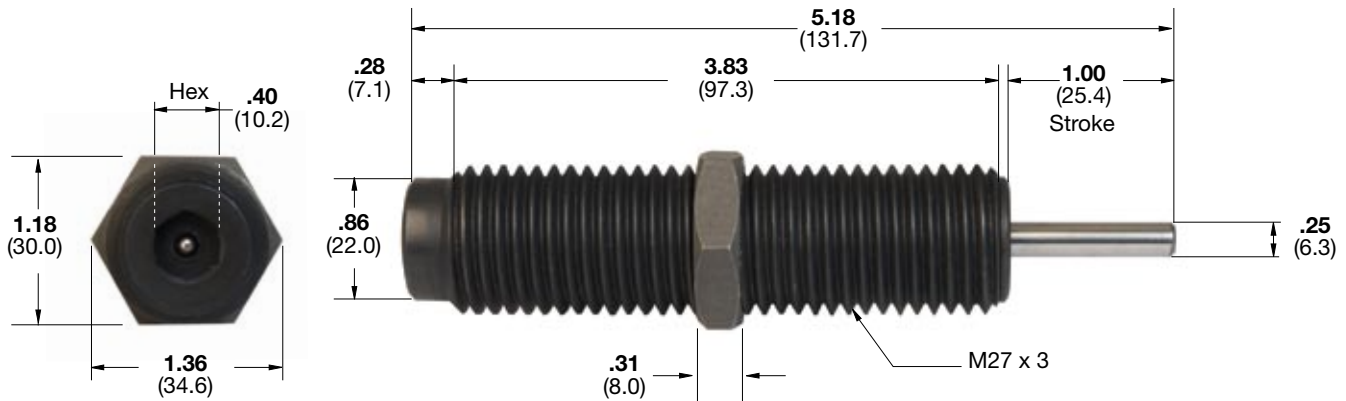
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## PET Shock Absorbers Construction



**Application: Sidel Series 1, 2 & Universal Machines**

Dimensions in inches (millimeters)



**Specifications**

Model	Effective Weight (stiffness)	E <sub>3</sub> Energy per Cycle in lbs (Nm)	E <sub>4</sub> Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs (kg)
SCP 650ML-1-NB-FG	(-1) Ultra Light	650 (73)	600,000 (68,000)	2.40 - 6.87 (10.67 - 30.55)	0.20	0.67 (0.31)
SCP 650ML-3-NB-FG	(-3) Ultra Light					

**Technical Data**

- Impact velocity range:** 0.5 to 12 ft/sec (0.15 to 3.66 m/sec)
- Mechanical stop:** integral mechanical stop built into front of units
- Oil type:** (-FG) H1 food grade oil, USDA, FDA & NSF approved
- Materials:** steel body with Weartec Plus finish. Stainless steel piston rod
- Effective weight:** selectable
- Rear female hex:** for ease and speed of installation
- Mold applications:** Sidel Series 1, 2 and Universal machines with large molds
- Stretch applications:** Sidel Series 1, 2 and Universal machines without a shock holder

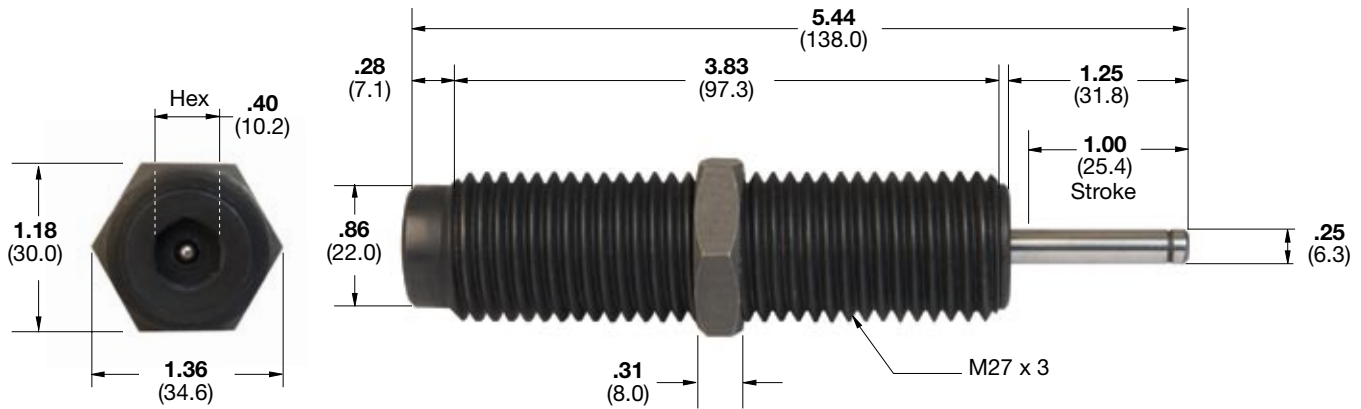
**Ordering Information - All Models**

**SCP 650ML -1 -QCM -FG**

SCP <sup>2</sup> Series & Model Number	Effective Weight	Mount, Button Options	Oil Type
SCP 190ME-3-439	-1 Ultra Light	<b>SCP 190ME (NO Options)</b>	-FG Food Grade H1
SCP 300M	-2 Light	<b>SCP 300M (NO Options)</b>	
SCP 650ML	-3 Medium	<b>SCP 650ML Options:</b>	
	-4 Heavy	-QCM Quick Change Mount (For Series 2 Machines Only)	
		-ERSB Extended Rod, Small Button	
		-SBUC Small Button, Urethane Cap	
		-880 No Button, Standard Rod	
		-NB No Button, Short Rod	

**Application: Sidel Series 2 & Universal Machines**

**Dimensions in inches (millimeters)**



**Specifications**

Model	Effective Weight (stiffness)	$E_3$ Energy per Cycle in lbs (Nm)	$E_4$ Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs (kg)
SCP 650ML-1-880-FG	(-1) Ultra Light	650 (73)	600,000 (68,000)	2.40 - 6.87 (10.67 - 30.55)	0.20	0.67 (0.31)

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**Sidel Universal Shock Holder**



**Sidel Series 2 Shock Holder (P/N 1131136901)**



**Technical Data**

**Impact velocity range:** 0.5 to 12 ft/sec (0.15 to 3.66 m/sec)

**Mechanical stop:** integral mechanical stop built into front of units. Shock holder becomes a positive stop.

**Oil type: (-FG)** H1 food grade oil, USDA, FDA & NSF approved

**Materials:** steel body with Weartec Plus finish. Stainless steel piston rod.

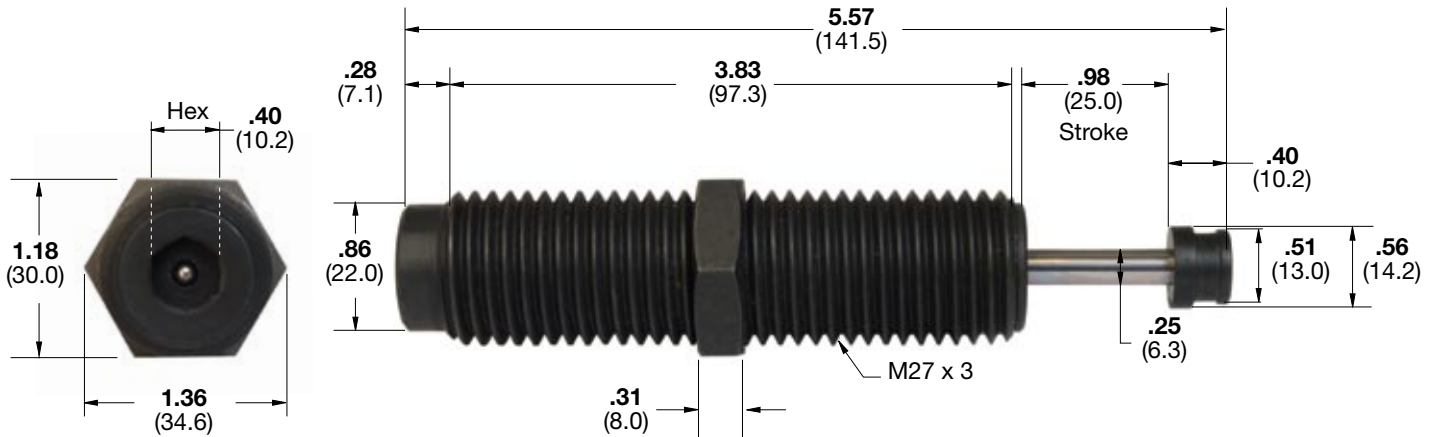
**Effective weight:** selectable

**Rear female hex:** for ease and speed of installation

**Sidel Series 2 stretch application:** used only with shock holder part number 1131136901

**Sidel Universal stretch rod application:** used with all shock holders

**Application: Sidel Series 1 & 2 Machines**      **Dimensions in inches (millimeters)**



**Specifications**

Model	Effective Weight (stiffness)	$E_3$ Energy per Cycle in lbs (Nm)	$E_4$ Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs (kg)
SCP 650ML-1-ERSB-FG	(-1) Ultra Light	650 (73)	600,000 (68,000)	2.40 - 6.87 (10.67 - 30.55)	0.20	0.67 (0.31)

**Sidel 1 Shock Holder (one of several types)**



**Sidel Series 2 Shock Holder (P/N 1073679102)**



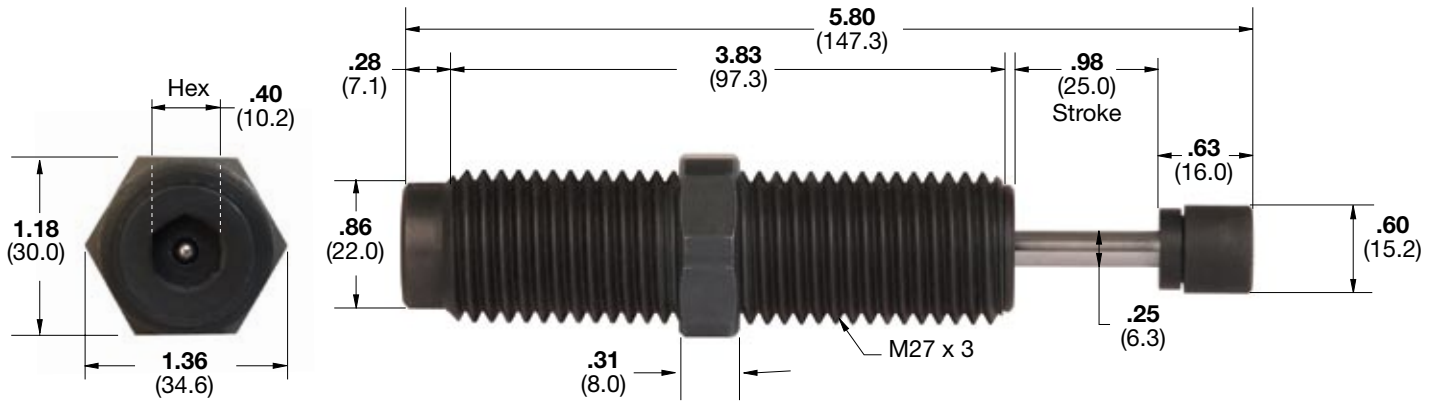
**Technical Data**

**Impact velocity range:** 0.5 to 12 ft/sec (0.15 to 3.66 m/sec)  
**Mechanical stop:** integral mechanical stop built into front of units. Shock holder also becomes a positive stop.  
**Oil type: (-FG)** H1 food grade oil, USDA, FDA & NSF approved  
**Materials:** steel body with Weartec Plus finish. Stainless steel piston rod.

**Effective weight:** selectable  
**Rear female hex:** for ease and speed of installation  
**Sidel Series 1 stretch rod application:** all that use shock holders  
**Sidel Series 2 stretch rod application:** used only with shock holder part number 1073679102

**Application: KRONES Machines**

**Dimensions in inches (millimeters)**



**Specifications**

Model	Effective Weight (stiffness)	Energy per Cycle in lbs (Nm)	Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs (kg)
SCP 650ML-1-SBUC-FG	(-1) Ultra Light	650 (73)	600,000 (68,000)	2.40 - 6.87 (10.67 - 30.55)	0.20	0.67 (0.31)

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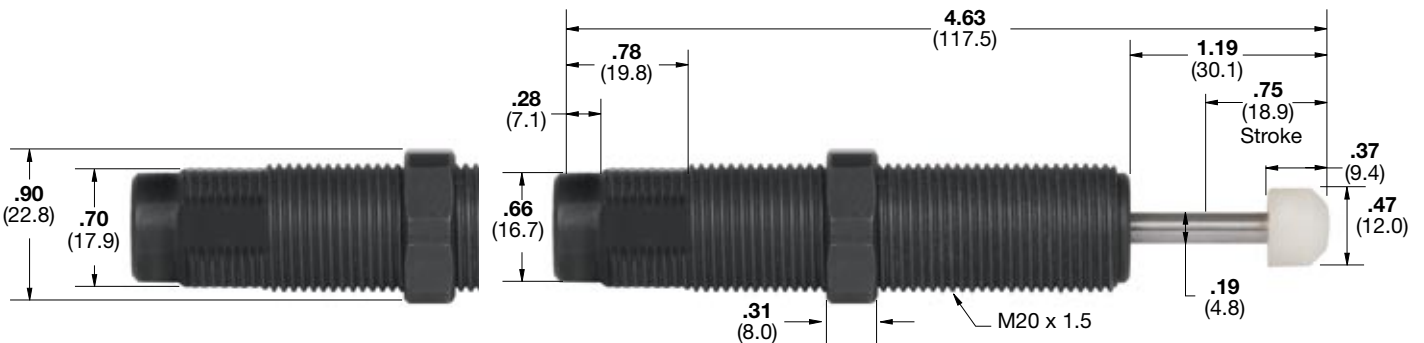
**Technical Data**

**Impact velocity range:** 0.5 to 12 ft/sec (0.15 to 3.66 m/sec)  
**Mechanical stop:** integral mechanical stop built into front of units  
**Oil type: (-FG)** H1 food grade oil, USDA, FDA & NSF approved  
**Materials:** steel body with Weartec Plus finish. Stainless steel piston rod.

**Effective weight:** selectable  
**Rear female hex:** for ease and speed of installation  
**Applications:** KRONES stretch rod with unit shock holders

**SCP 300M-3-B-FG**

**Dimensions in inches (millimeters)**



**Specifications**

Model	Effective Weight (stiffness)	Energy per Cycle in lbs (Nm)	Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs (kg)
SCP 300M-3-B-FG	(-3) Ultra Light	300 (33)	400,000 (45,000)	1.05 - 2.15 (4.67 - 9.56)	0.10	0.25 (0.11)

**Technical Data**

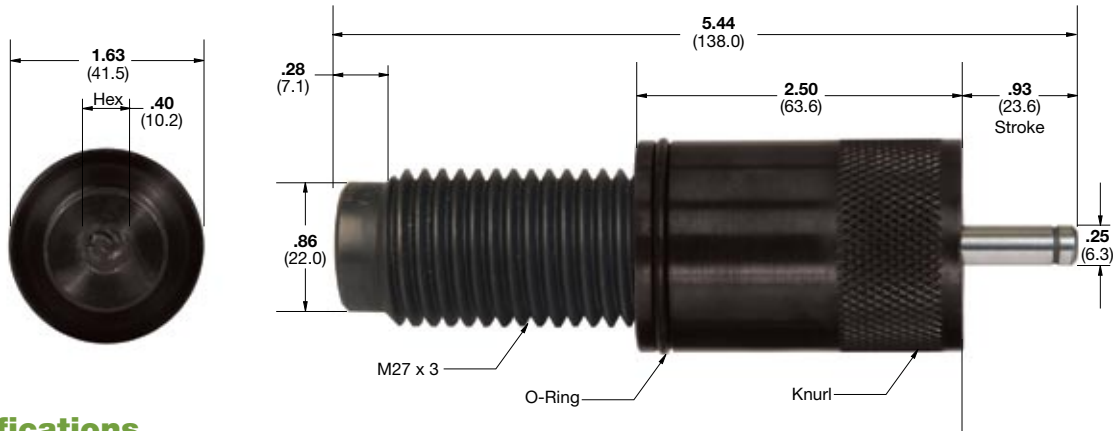
**Impact velocity range:** 0.5 to 12 ft/sec (0.15 to 3.66 m/sec)  
**Mechanical stop:** integral mechanical stop built into front of units  
**Oil type: (-FG)** H1 food grade oil, USDA, FDA & NSF approved

**Materials:** steel body with Weartec Plus finish. Stainless steel piston rod.  
**Effective weight:** selectable  
**Applications:** KRONES large molds



**Application: Sidel Series 2 Machines**

**Dimensions in inches (millimeters)**



**Specifications**

Model	Effective Weight (stiffness)	Energy per Cycle in lbs (Nm)	Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs (kg)
SCP 650ML-1-QCM-FG	(-1) Ultra Light	650 (73)	600,000 (68,000)	2.40 - 6.87 (10.67 - 30.55)	0.20	0.67 (0.31)

**Technical Data**

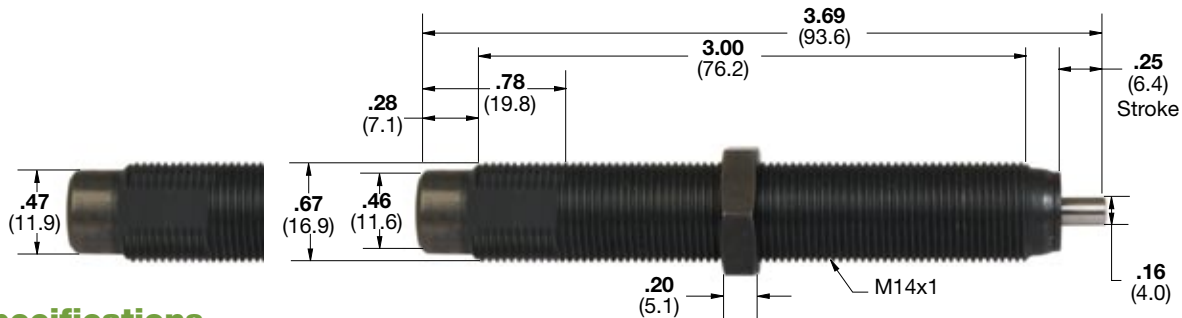
**Impact velocity range:** 0.5 to 12 ft/sec (0.15 to 3.66 m/sec)  
**Operating temperature:** 32° to 150° F (0° to 66° C)  
**Mechanical stop:** integral mechanical stop built into front of units  
**Oil type:** (-FG) H1 food grade oil, USDA, FDA & NSF approved

**Materials:** steel body with Weartec Plus finish. Stainless steel piston rod.  
**Effective weight:** selectable  
**Sidel Series 2 application:** stretch rod down only

**SCP 190ME-3-439**

**Application: Sidel Universal Machines-Small Molds**

**Dimensions in inches (millimeters)**



**Specifications**

Model	Effective Weight (stiffness)	Energy per Cycle in lbs (Nm)	Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs (kg)
SCP 190ME-3-439	(-3) Ultra Light	225 (25)	300,000 (34,000)	0.90 - 1.90 (4.00 - 8.95)	0.25	0.18 (0.08)

**Technical Data**

**Impact velocity range:** 0.5 to 12 ft/sec (0.15 to 3.66 m/sec)  
**Mechanical stop:** integral mechanical stop built into front of units  
**Oil type:** H1 food grade oil, USDA, FDA & NSF approved

**Materials:** steel body with Weartec Plus finish. Stainless steel piston rod.  
**Effective weight:** not selectable  
**Application:** Sidel Universal small molds

**Sidel Series 1 Machines**

Stretch Rod Used without a shock holder	Stretch Rod Used with a unit's shock holder	Mold All Applications	Mold Exception
SCP 650ML-1-NB-FG	SCP 650ML-1-ERSB-FG	SCP 650ML-3-NB-FG Used as a snubber.	Except the few SBO-40 machines

Note: all models listed are a common interchange selection. The effective weight stiffness can be changed to accommodate customer preference or application requirements.



SCP 650ML-1-NB-FG or SCP 650ML-3-NB-FG



SCP 650ML-1-ERSB-FG

**Sidel Series 2 Machines**

Stretch Rod Down QCM Assembly	Stretch Rod Down Select a model for your specific shock holder	Stretch Rod Up Heat Set Machines	Mold All Machines
SCP 650ML-1-QCM-FG <b>Quick Change Mount.</b> This model eliminates the confusion and potential application problems.	SCP 650ML-1-ERSB-FG Used with shock holder #1073679102 (gold)  SCP 650ML-1-880-FG Used with shock holder #1131136901 (silver)	SCP 650ML-3-NB-FG Used as a snubber.  Some customers may prefer to use a "-4" effective weight	SCP 650ML-3-NB-FG Used as a snubber.  Some customers may prefer to use a "-2" effective weight

Note: all models listed are a common interchange selection. The effective weight stiffness can be changed to accommodate customer preference or application requirements.



SCP 650ML-3-NB-FG



SCP 650ML-1-ERSB-FG



SCP 650ML-1-QCM-FG



SCP 650ML-1-880-FG

**Sidel Universal Machines**

<b>Stretch Rod</b> Used without a shock holder	<b>Stretch Rod</b> Used with a unit's shock holder	<b>Stretch Rod Up</b> Large M27x3 thread	<b>Mold</b> Small M14x1 thread
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**SCP 650ML-1-NB-FG**  
Not used on all machines.

**SCP 650ML-1-880-FG**

**SCP 650ML-3-NB-FG**  
Used as a snubber.

**SCP 190ME-3-439**  
Used as a snubber.

Some customers may prefer to use a "-2" effective weight

**Note: All models listed are a common interchange selection. The effective weight stiffness can be changed to accommodate customer preference or application requirements.**



**SCP 650ML-1-NB-FG or SCP 650ML-3-NB-FG**



**SCP 650ML-1-880-FG**



**SCP 190ME-3-439**

**KRONES Machines**

<b>Stretch Rod</b> Used without a shock holder	<b>Mold</b> Large M20x1.5 thread	<b>Mold</b> Small M14x1.5 thread
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**SCP 650ML-1-SBUC-FG**

**SCP 300M-3-B-FG**

To be determined

**Note: All models listed are a common interchange selection. The effective weight stiffness can be changed to accommodate customer preference or application requirements.**



**SCP 650ML-1-SBUC-FG**



**SCP 300M-3-B-FG**



# PET Shock Absorbers

*Increased production*

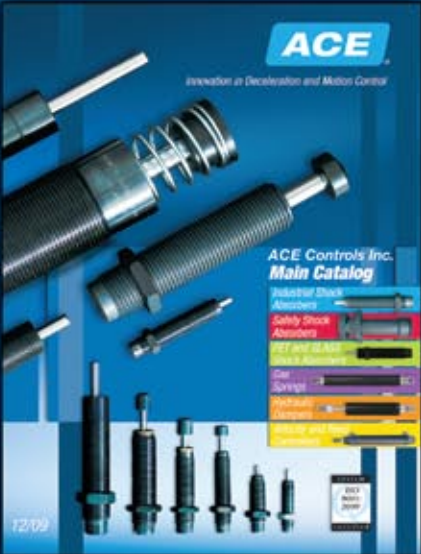
*Increased system performance*

*Reduced downtime*

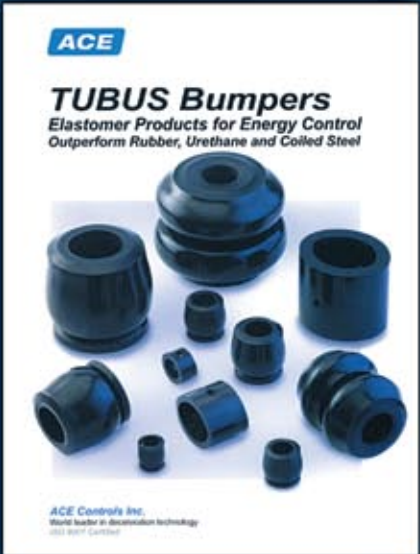
*Reduced reaction forces*

*Reduced component wear*

## Additional ACE Controls Products



Industrial & Safety  
Shock Absorbers  
AGS Gas Springs  
Hydraulic Dampers  
Velocity Controllers



TUBUS Bumpers



Rotary Dampers



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