



STRETCH ROD CYLINDERS FOR SIDEL® UNIVERSAL MACHINES

for the Plastic Bottle Blowing Industry



- Longer Life

- Reduces Maintenance and Downtime

- Direct Replacement

*Direct Replacement
for Sidel® Model
Universal Machines*

HEAT SET
WITHOUT BALAYAGE
ML# 309397



**ISO-9001
CERTIFIED**

Quality Management
System Certified

UNIVERSAL02



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MAC Distributor Network

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SOLUTIONS FOR INDUSTRIAL AUTOMATION

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ORDERING GUIDE: UNIVERSAL CYLINDER



CSD
ML# 308217



Heat Set
ML# 309326



Heat Set without Balayage
ML# 309397



SB034
ML# 309360

Recommended Set Up Instructions

How is the machine being run?

CSD - If yes, order **ML306987** (unit without valve)(**1**)
or **ML308217** (unit with valve)

Heat Set - Is Balayage only being used? If YES, **ML307364** (without valve)(**2**)
or **ML309326** (with valve)

Heat Set - Instead of Balayage, is there back pressure (full blow) on stretch rod during retract?
If YES, then **ML307592** (without valve) (**3**)
or **ML309397** (with valve)

(This is the case often when machine is heat set, but running CSD bottles)

Shock Absorber used on stretch rod cylinder retract?
If NO, contact PHD before ordering.

Cold Set on an SB034? Standard cylinders issued on this machine are only 290mm in stroke, as opposed to 400mm. This cylinder has a different stroke, a different flange and the alignment of the flange/check valve is different than the other cylinders for the Universal. If YES, order **ML309360** (**4**) for unit with valve, **ML309361** for a unit without valve, or **ML309734** for a unit with a valve and heat set style mufflers.

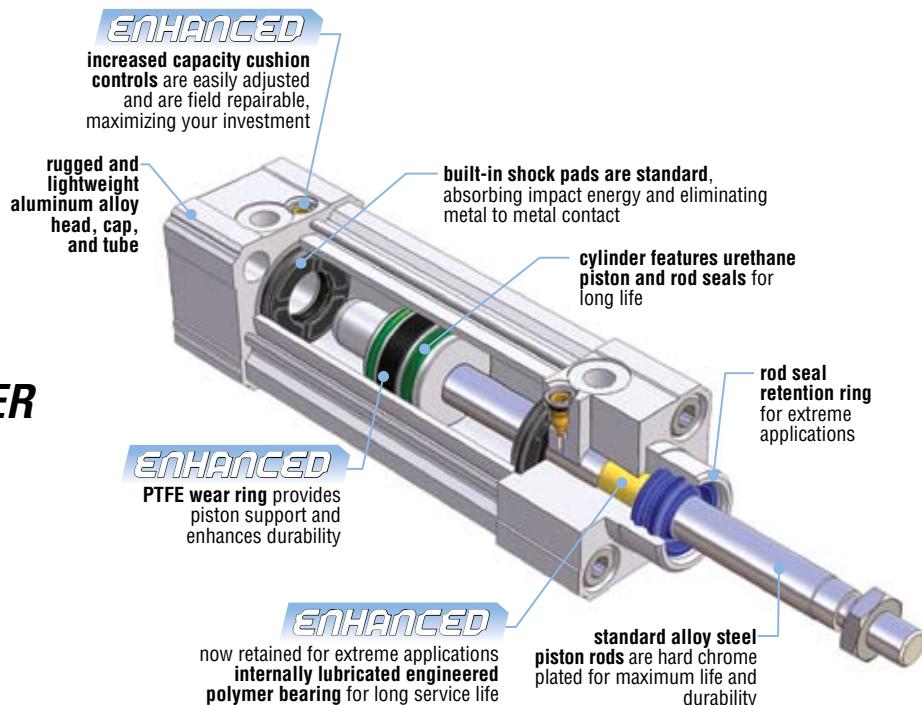
Recommended Set Up Instructions –
Start with cushion needle in fully closed position

- (**1**) **IF NO BACK PRESSURE**, adjust cushion needle 1/2 to 1 full turn from fully closed position.
IF BACK PRESSURE, adjust cushion needle 1-1/2 to 2 full turns from fully closed position.
- (**2**) Adjust cushion needle 4 full turns from fully closed position. If used in conjunction with shock absorber on retract, then open counterclockwise until fully open.
- (**3**) Adjust cushion needle 1-1/4 turns from fully closed position.

Factory recommended guidelines only - customer will need to adjust accordingly to his specific loads and speed.



- Provides Significantly Longer Life
- Direct Replacement
- Reduces Maintenance and Downtime



UNIVERSAL MACHINES STRETCH ROD CYLINDER

- Direct replacement for Sidel® Model Universal Machines

Common Benefits

- PHD Cylinder mounts into the same space and bolt patterns.
- Provides significantly longer life and reduces maintenance and downtime.
- Mounting options provide ease of design into application.
- Internal shock pads are standard, eliminating metal to metal contact.
- Cushion controls are standard for end of stroke deceleration.
- Cylinders are easily field repairable, maximizing your investment.

Industry Uses

- Plastic Packaging - Stretch Blow Molding

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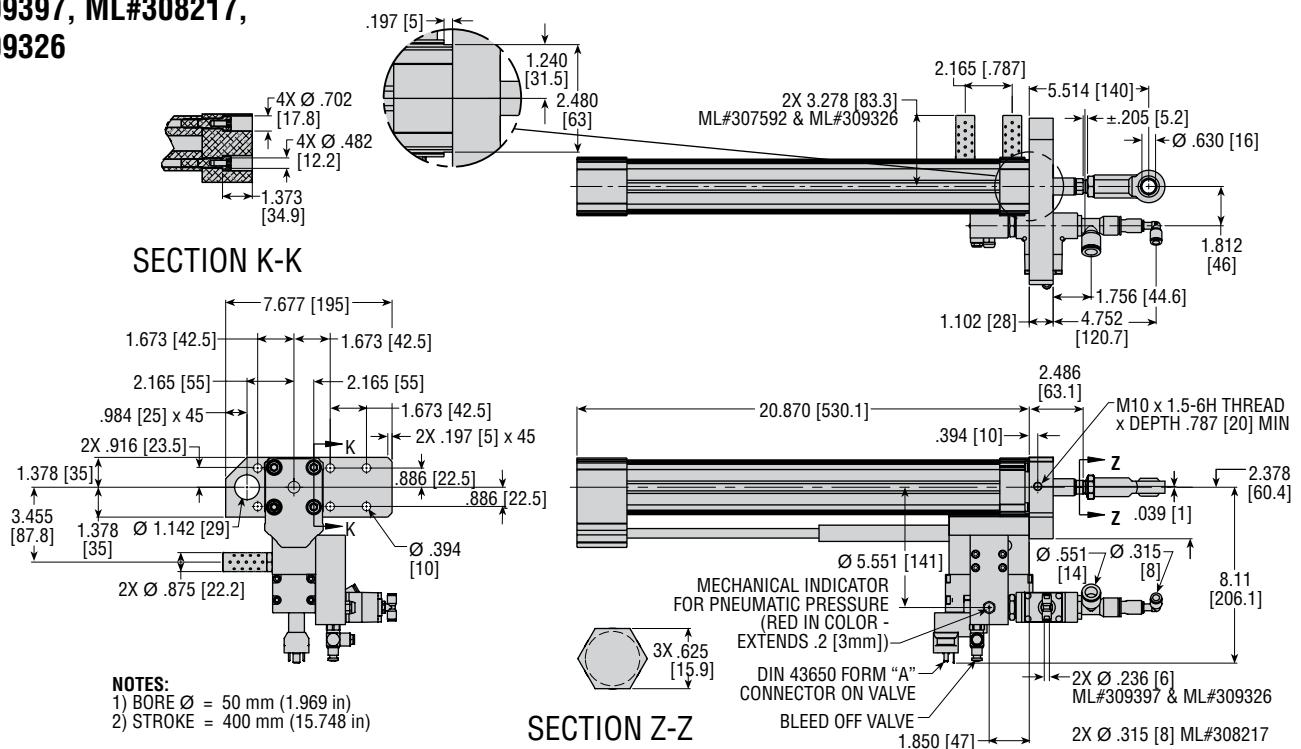
SPECIFICATIONS		IMPERIAL	METRIC
TYPE		Pneumatic Cylinder	
SERIES		Universal Machines Stretch Rod Cylinder	
BORE SIZE	1.969 in	50 mm	
BORE AREA - EXTEND	3.04 in ²	1963 mm ²	
BORE AREA - RETRACT	2.56 in ²	1649 mm ²	
THEORETICAL OUTPUT	264.5 lb @ 87 psi	1176.6 N @ 6 bar	
OPERATION	Double Acting		
OPERATING PRESSURE RANGE	7.5 - 150 psi	0.5 - 10 bar	
AMBIENT TEMPERATURE	-20° to 180° F	-29° to 82° C	
ADJUSTABLE CUSHION - RETRACT	Standard		
LUBRICATION; FOOD GRADE	FDA Regulation 21 CFR 178.3570		
STROKE (SB034)	15.692 in	400 mm	
STROKE TOLERANCE	+.079/-0.000 in	+2.0/-0.0 mm	
SHOCK PAD	Thermoplastic Polyester Elastomer (TPE)		
HEADS & CAPS	Anodized Aluminum		
CYLINDER TUBE	Anodized Aluminum		
PISTON ROD	Hard Chrome Plated Steel		
ROD BEARING	Internally Lubricated Polymer		
PISTON & ROD SEALS	Urethane		

VALVE SPECIFICATIONS

SERIES	ISO 2 (ISO 5599/1)
FUNCTION	5/2
OPERATOR	Single
PILOT	Internal
SPOOL RETURN	Spring
SOLENOID	24 VDC (5.4 W)
VOLTAGE RANGE	-15% to +10% from Nominal
ELECTRICAL CONNECTOR	DIN 43650, Form A
MANUAL OPERATOR	Non-locking Recessed
PILOT EXHAUST	Muffled
FLOW	3.0 Cv
LUBRICATION	FDA Regulation 21 CFR 1789.3570
FILTRATION	40 Micron
OPERATING PRESSURE RANGE	20 to 150 psi [1.37 to 10 bar]
AMBIENT FLUID TEMPERATURE	0° to 120° F [-18° to 50° C]

DIMENSIONS: STRETCH ROD CYLINDERS

ML#309397, ML#308217,
ML#309326

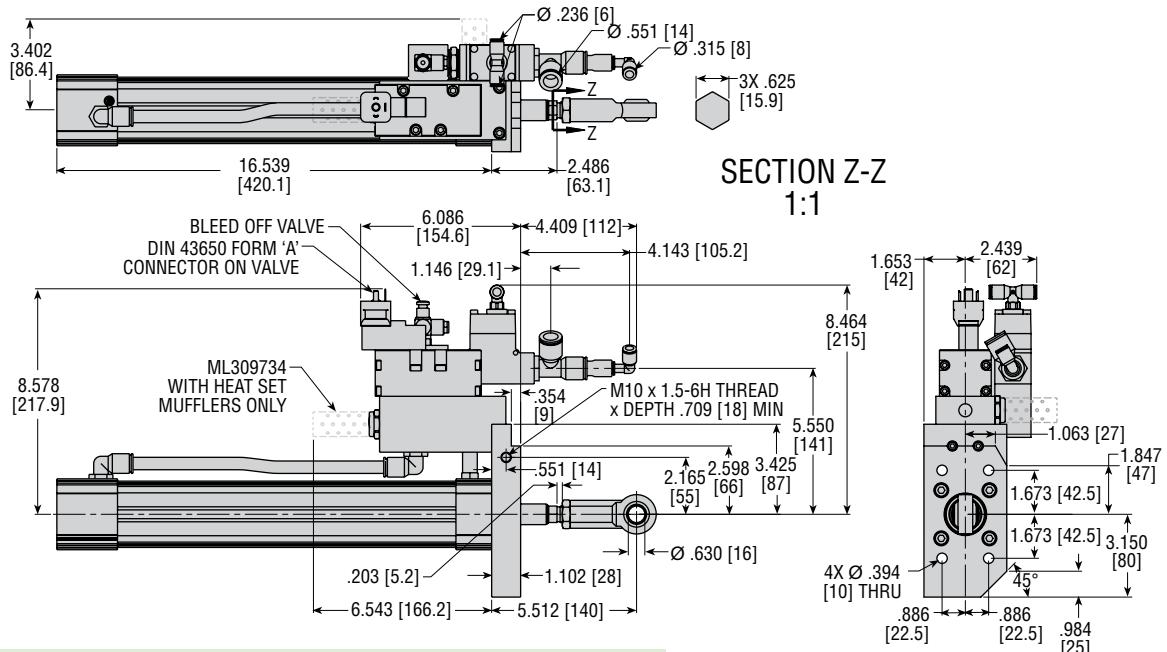


ML#309360

for SB034, 290 mm stroke cylinder

ML#309734

for SB034, 290 mm stroke cylinder with heat set mufflers



Heat Set Style Mufflers
ML# 309326
ML# 309397
ML# 309734



CSD Style Mufflers
ML# 309360

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