

BCK

STRETCH ROD CYLINDERS

for Kronos® Stretch Blow Molding Machines



Simplified Pneumatic System

Easy Maintenance

Better Delivery

Better Price

Shown with optional
MAC valve -U23




**ISO-9001
CERTIFIED**

Quality Management
System Certified

BCK01



PHD is a member of the
MAC Distributor Network

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SOLUTIONS FOR INDUSTRIAL AUTOMATION

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ORDERING DATA: SERIES BCK STRETCH ROD CYLINDERS

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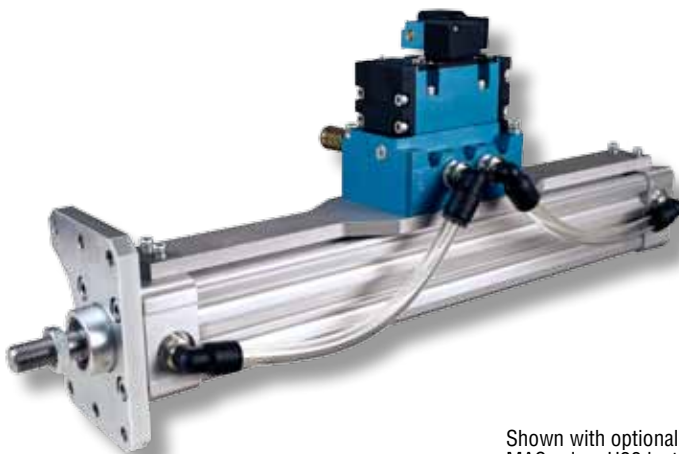
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Parts List & Repair Kits

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Shown with optional
MAC valve -U23 installed

TO ORDER SPECIFY:

Product Line, Series, Type, OEM Cylinder No., Design No., Bore Size, Metric Stroke, Mandatory Option, and Cylinder Options if required.

OEM CYLINDER NO.

1 - 0-900-99-743-0
0-902-52-569-9

PRODUCT LINE

B - Blow Mold

TYPE

K - Krones® Stretch Rod

DESIGN NO.

5 - Metric

MANDATORY OPTION

DR - *Cushion Control Retract Only

B C K 1 - 5 - 50 x 390 - DR - U23

SERIES

C - Cylinder
150 psi [10 bar] Air

BORE SIZE

BORE		AREA	
(mm)	(in)	(sq mm)	(sq in)
50	1.969	1963	3.05

Contact PHD for smaller or larger bores.

METRIC STROKE

STANDARD STROKE LENGTHS	
BORE (mm)	MAXIMUM STROKE (mm)
50	390

(164 mm = Minimum Stroke in 1 mm Increments)

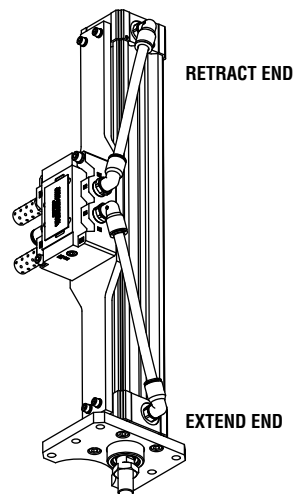
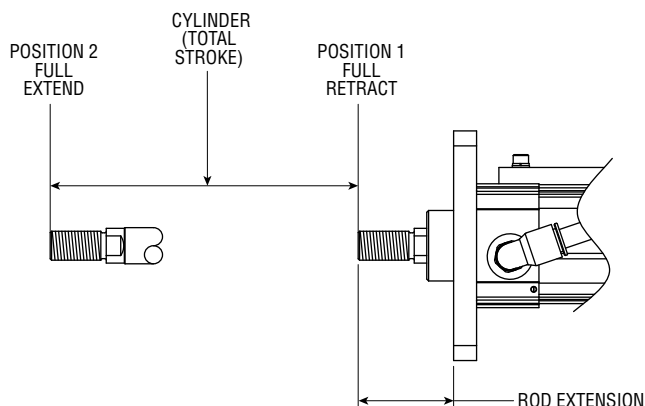
Contact PHD for longer strokes.

CYLINDER OPTIONS

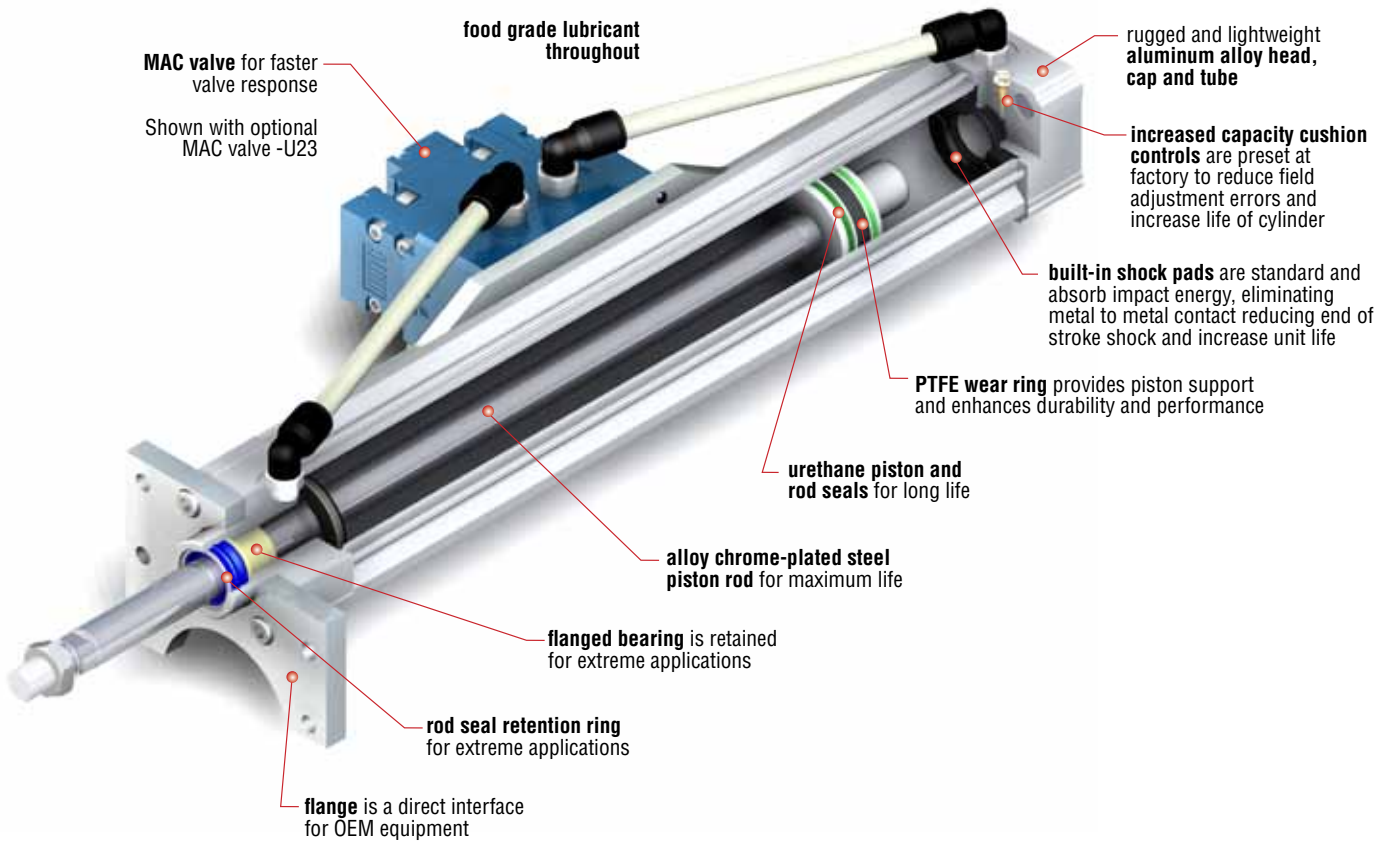
K_ - Extra Rod Extension in 1 mm increments
Length Code (BCKxxx) is
-K5 = 5 mm, -K17 = 17 mm, etc.
U19 - MAC ISO 2 Series Valve with DIN
Connector on Top
U23 - MAC ISO 2 Series Valve with DIN
Connector Rotated 90°
R13 - Rod Eye Attached to Rod End of Cylinder
H4 - Standard Cylinder only
(Full Unit Description Required)

NOTES:

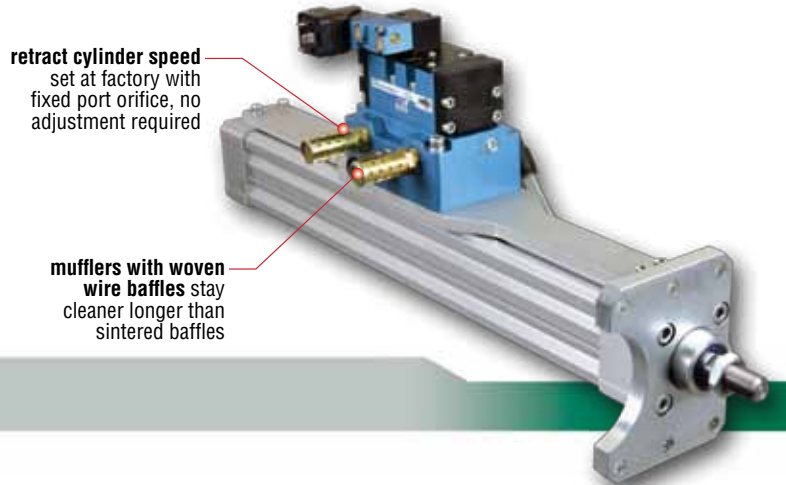
- *-DR must be specified.
- Standard stretch rod cylinder ordering number is as follows:
BCK1-5-50 x 390 - DR (-U19.)
-U23 or -U19 option needs to be specified for valve to be attached to unit.



SERIES BCK STRETCH ROD CYLINDERS



- Simplified Pneumatic System
- Easy Maintenance
- Better Delivery
- Better Price



Major Benefits

- Direct OEM replacement
- Single pressure operation
- ISO 2 valve compatible
- Retract cushion control factory set for retract end of stroke deceleration
- Cylinders easily field repairable to maximize investment
- Internal shock pads standard on extend and retract
- Food grade lubrication throughout

Significantly Longer Life
Reduces Maintenance Downtime

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ENGINEERING DATA: SERIES BCK STRETCH ROD CYLINDERS

SPECIFICATIONS	IMPERIAL	METRIC
Type	Pneumatic Cylinder	
Series	BCK Stretch Rod Actuator	
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 @ 87 psi [6 bar]	264.5 lb	1176.6 N
Fluid	Air	
Operation	Double Acting	
Operating Pressure Range	7.5 - 150 psi	0.5 - 10 bar
Ambient and Fluid Temperature	-20° to 180°F	-29° to 82°C
Operating Piston Speed (Typical)	Factory Set on Retract Cam Controlled on Machine	
Cushion, Adjustable Retract	Standard (Factory Set)	
Lubrication	FDA Regulation 21 CFR 1789.3570	
Port Size	G 1/4 Head	
Stroke	15.354 in	390 mm
Stroke Tolerance	+0.079/-0.000 in	+2.0/-0.0 mm
Bumper	Thermoplastic Polyester Elastomer	
Heads & Caps	Anodized Aluminum	
Cylinder Tube	Anodized Aluminum	
Piston Rod	Hard Chrome Plated Steel	
Rod Bearing	Engineered Polymer	
Piston & Rod Seal Material	Urethane	

VALVE SPECIFICATIONS	IMPERIAL	METRIC
Series	ISO 2 (ISO 5599/1)	
Function	5 / 2	
Fluid	Air	
Operator	Single	
Pilot	Internal	
Spool Return	Air Only	
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 and Fluid Temperature	0° to 120°F	-18° to +50°C

ACTUATOR SPEEDS

Factory set on retract. Cam controlled on extend by machine.

MAXIMUM ALLOWABLE KINETIC ENERGY

Series BCK Cylinder is provided with a cushion retract. Its maximum kinetic energy rating is 60.5 in-lb [6.84 Nm].

LIFE EXPECTANCY

Series BCK Cylinders have been designed for over 20 million trouble-free cycles.

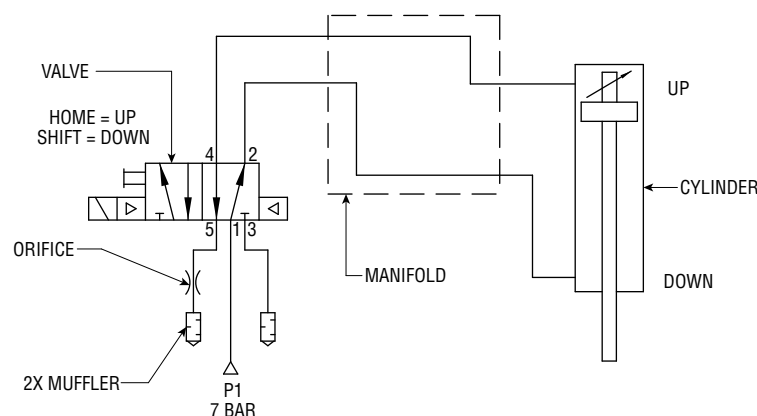
LUBRICATION

Series BCK Cylinders are lubricated internally at the factory for the life of the cylinder. PHD uses FDA food grade lubrication per regulation 21 CFR 1789.3570. Any other lubrication applied to the cylinder may decrease the life expectancy.

MAINTENANCE

As with most PHD products, these cylinders are field repairable. Repair kits, piston and rod assemblies, and main structural components are available as needed for extended service.

SCHEMATIC DIAGRAM



OPTIONS: SERIES BCK STRETCH ROD CYLINDERS

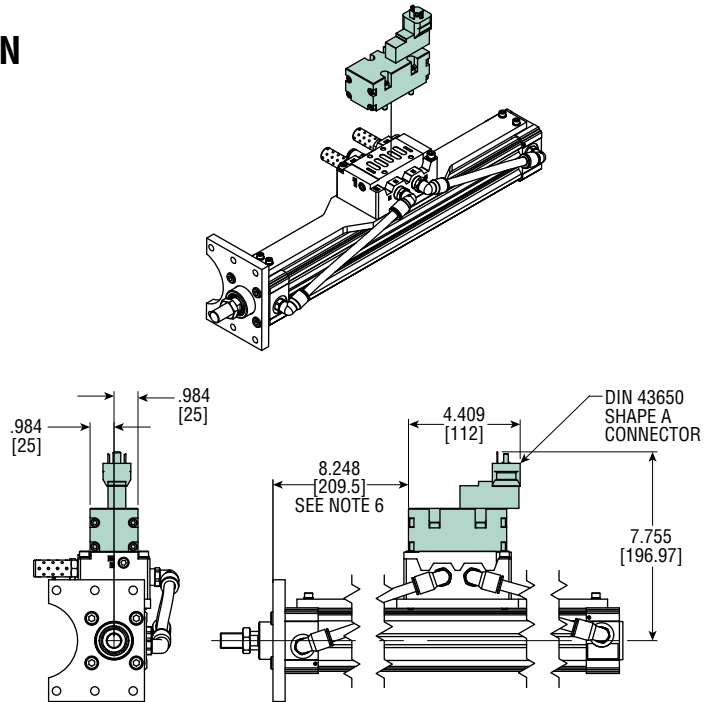
U19

MAC ISO 2 SERIES VALVE TOP ORIENTED DIN CONNECTION

A MAC ISO 2 Series valve is optionally provided and assembled to the unit by specifying the -U19 option. The valve is equipped with a top oriented DIN 43650, shape A connector, and is lubricated with FDA Regulation 21 CFR 1789.3570 food grade lubrication. Refer to valve specification chart on page 4.

NOTES:

- 1) UNIT SHOWN AT 390 mm TRAVEL
- 2) ALL DIMENSIONS ARE REFERENCE ONLY
- 3) DIMENSIONS IN [] INDICATE VALUES IN mm
- 4) MAXIMUM STROKE IS 15.354 [390]
- 5) MINIMUM STROKE IS 6.457 [164]
- 6) FOR STROKES SHORTER THAN 390 SUBTRACT .019 [.5 mm] FOR EACH 1 mm OF STROKE REDUCTION.



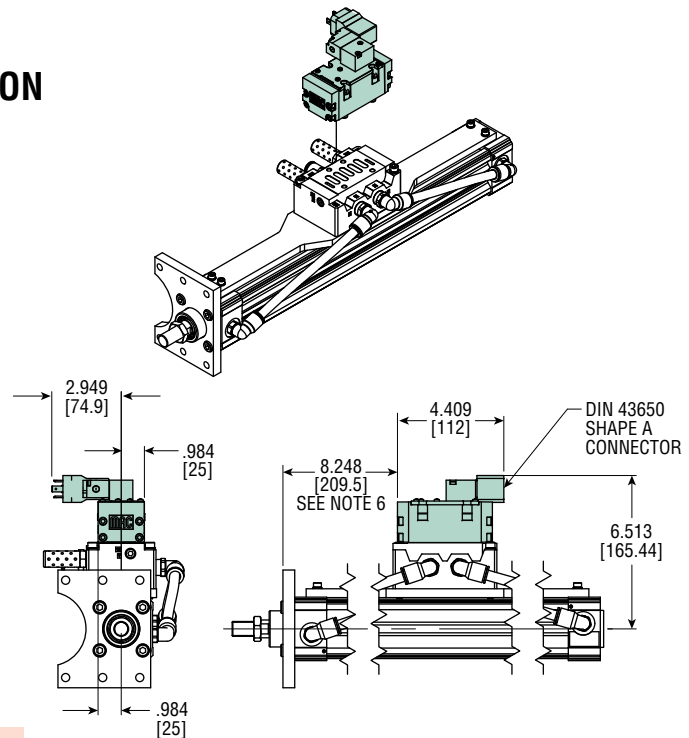
U23

MAC ISO 2 SERIES VALVE SIDE ORIENTED DIN CONNECTION

A MAC ISO 2 Series valve with side oriented DIN connection is an option and assembled to the unit by specifying the -U23 option. The valve is equipped with a DIN 43650, shape A connector, and is lubricated with FDA Regulation 21 CFR 1789.3570 food grade lubrication. Refer to valve specification chart on page 4.

NOTES:

- 1) UNIT SHOWN AT 390 mm TRAVEL
- 2) ALL DIMENSIONS ARE REFERENCE ONLY
- 3) DIMENSIONS IN [] INDICATE VALUES IN mm
- 4) MAXIMUM STROKE IS 15.354 [390]
- 5) MINIMUM STROKE IS 6.457 [164]
- 6) FOR STROKES SHORTER THAN 390 SUBTRACT .019 [.5 mm] FOR EACH 1 mm OF STROKE REDUCTION.

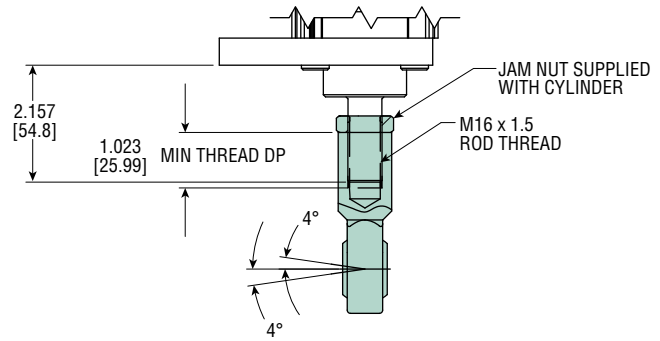
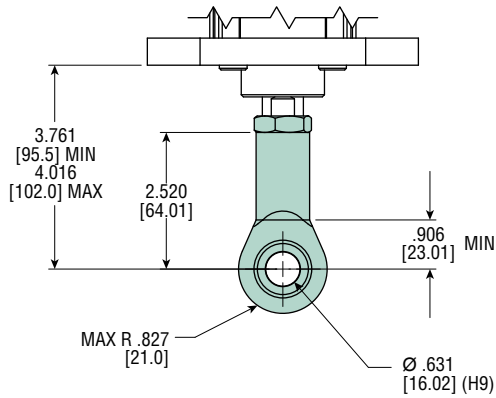
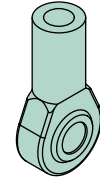


CAUTION: When attaching the -U23 Option to the cylinder manifold, the two M3 SHCS holding the pilot block to the valve body must be removed in order to properly attach the valve to the manifold. If the M6 SHCS are not properly torqued, the valve may leak and the SHCS will damage both the pilot block and the valve body.

OPTIONS: SERIES BCK STRETCH ROD CYLINDERS

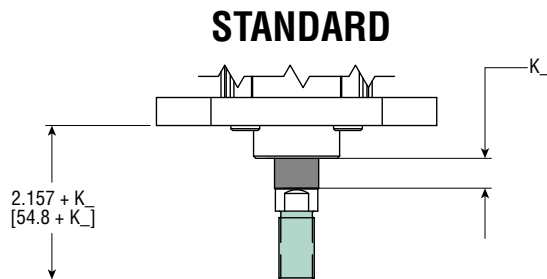
R13 ROD EYE MOUNTING WITH SPHERICAL BEARING (DIN 8139)

This option includes a rod eye attached to the rod end of the cylinder.



K_ EXTRA ROD EXTENSION

Extra rod extension can be achieved by specifying the option -K followed by the length code. Rod extension is available in 1 mm increments. Contact PHD for other combinations.



NOTES:

- 1) $K_$ = Extra rod extension in 1 mm increment lengths
Code examples: -K5 = 5 mm extension
-K15 = 15 mm extension
- 2) Rod extension shown at -K15 (15mm)

