

FCA

SERIES FCA FILLER CYLINDERS for the Bottle Filling Industry



Filler Valve Replacement Cylinder



- *Direct Replacement of Competitor Unit*
- *Provides Significantly Longer Life*
- *Reduces Maintenance and Downtime*
- *Easily Field Repairable*


**ISO-9001
CERTIFIED**

Quality Management
System Certified

FCA01



PHD is a member of the
MAC Distributor Network

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SOLUTIONS FOR INDUSTRIAL AUTOMATION

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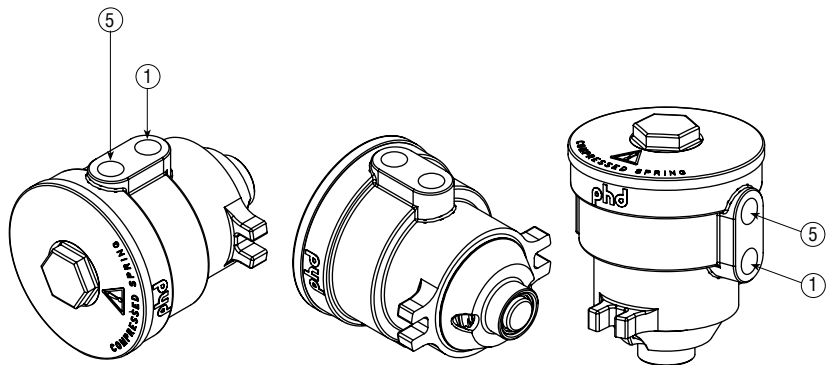
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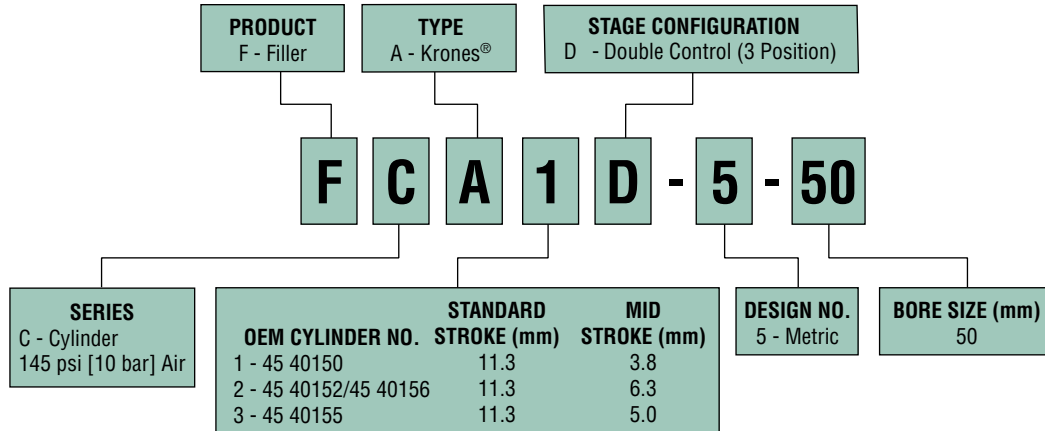
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TO ORDER, SPECIFY:

Product, Series, Type, Cylinder No.,
Stage Configuration, Design No.,
and Bore Size.



Save BIG with Series FCA Filler Cylinders

Lowest Cost of Ownership for Long Term Savings



Diaphragm Type



\$\$

- Replacement/rebuild required 2 times per year (2 years = 4 unit rebuilds!)
- Scrap rates because of faulty cylinder and downtime can exceed .5%



PHD Series FCA



\$

- One unit typically runs trouble free for 2 years
- Eliminates costly scrap due to diaphragm failure

A Savings Example

Your filler machine utilizes 120 cylinders **x** potential of \$1400* in improved production per cylinder annual savings

$120 \times \$1400 = \$168,000$ annual savings per machine!

Since the Series FCA should provide 2 years of maintenance-free service....

That's \$336,000 savings over a 2 year period!

PHD Cost of Ownership - Annual Worksheet

Category	Diaphragm	FCA
Initial Investment	\$1,200	\$1,200
Annual Maintenance	\$2,800	\$0
Annual Production Loss	\$1,200	\$0
Annual Scrap	\$1,200	\$0
Total Annual Cost	\$6,400	\$1,200

PHD Units Outlive the Diaphragm Units 4 to 1



Over a 2 year period you could have as many as 4 rebuilds. Estimates are based on 4 million cycles per cylinder, per year.

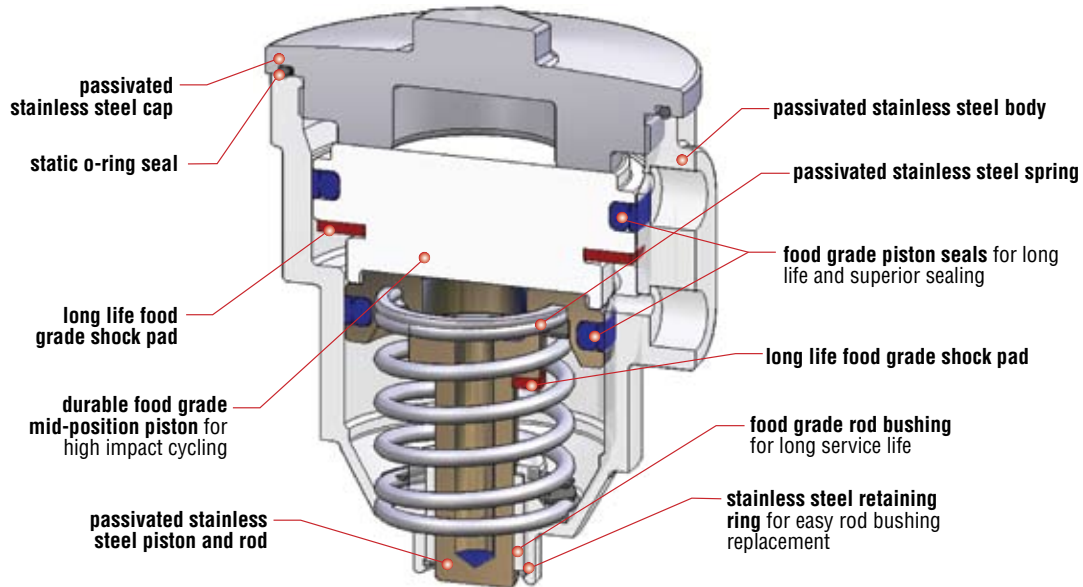
Summary Results

Section	Year Savings	Notes
Annualized Unit Cost	\$1,200	Unit price/total life
Maintenance / Production	\$1,200	Includes Maintenance Costs and Product Loss/Production/Operator Costs
Production Loss	\$1,200	Based on Reduction of Scrap
Production Scrap	\$1,200	Includes Chilling, Sealing and Shipping Costs
Production Scrap	\$1,200	Also includes additional costs such as Change Over, Storage, and Inventory
Total Annual Cost Savings	\$4,800	
Estimated Annual Cost Savings	\$171,600	PHD CUSTOMER'S Total Cost Savings!
Additional Unit Price	\$1,200	Annual Additional Cost/Unit Produced
Production Loss	\$1,200	Annual Loss of Production Potential
Total Annual Value	\$171,600	THE VALUE OF PHD CUSTOMER'S Lowest Cost of Ownership

***Your local PHD representative would like the opportunity to calculate your actual savings.**



- **Direct Replacement for Competitor Unit**
- **Provides Significantly Longer Life**
- **Reduces Maintenance and Downtime**
- **Easily Field Repairable**

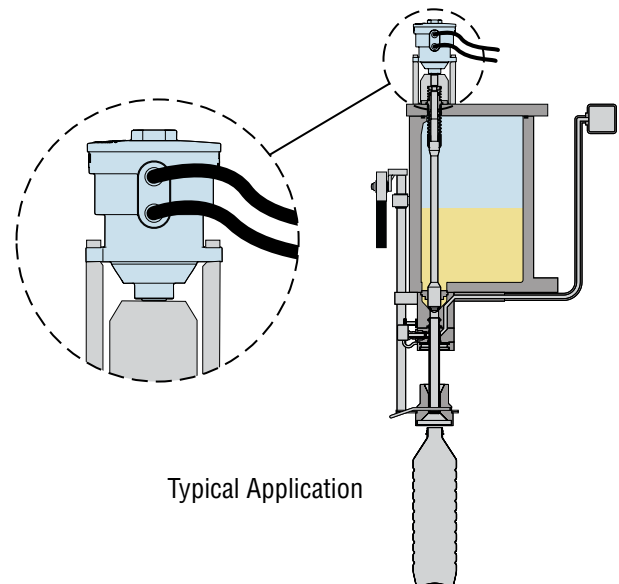


Major Benefits

- Replaces Kronos® Filler Valves 45 40150, 45 40152/45 40156, and 45 40155
- Robust piston design replaces failure-prone diaphragm cylinder
- Reliable, field-tested performance provides consistent fill levels over extended periods of service
- Long life design for reduced maintenance costs
- Clean, hygienic, round design for easy washdown
- Food grade materials for global acceptance
- Passivated stainless steel materials for food and beverage industry
- Compatible with current CIP chemicals and soaps
- Lube-free design eliminates potential lubricant migration
- Global availability and support
- Superior delivery

Industry Uses

- Plastic Packaging - Kronos® Filling Machines



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ENGINEERING DATA: SERIES FCA FILLER CYLINDERS

SPECIFICATIONS	IMPERIAL	METRIC
TYPE	Pneumatic Filler Cylinder	
SERIES	FCA	
OPERATION	Single Acting, Spring Return	
POSITION	3 Position	
BORE SIZE - FULL STROKE	1.575 in	40 mm
BORE AREA - FULL STROKE	1.948 in ²	1256.6 mm ²
BORE SIZE - MID STROKE	1.969 in	50 mm
BORE AREA - MID STROKE	3.04 in ²	1963 mm ²
THEORETICAL OUTPUT (40 mm Bore at 70 psi [4.8 bar])	136.3 lb	606.3 N
SPRING RETRACT FORCE	15.5 to 24.7 lb	69 to 109.9 N
FLUID	Air	
OPERATING PRESSURE RANGE	29 to 145 psi	2 to 10 bar
AMBIENT AND FLUID TEMPERATURE	33° to 180°F	0.6° to 82°C
SHOCK PAD ON EXTEND POSITIONS	Standard	
LUBRICATION	No Lube	
PORT SIZE	1/8 BSPP	
WEIGHT	1.6 lb	.73 kg
CAP	Passivated Stainless Steel	
BODY	Passivated Stainless Steel	
PISTON ROD	Passivated Stainless Steel	
ROD BUSHING	Food Grade	
PISTON SEALS	Food Grade	

LIFE EXPECTANCY

This unit has been lab tested over 12 million trouble-free cycles.

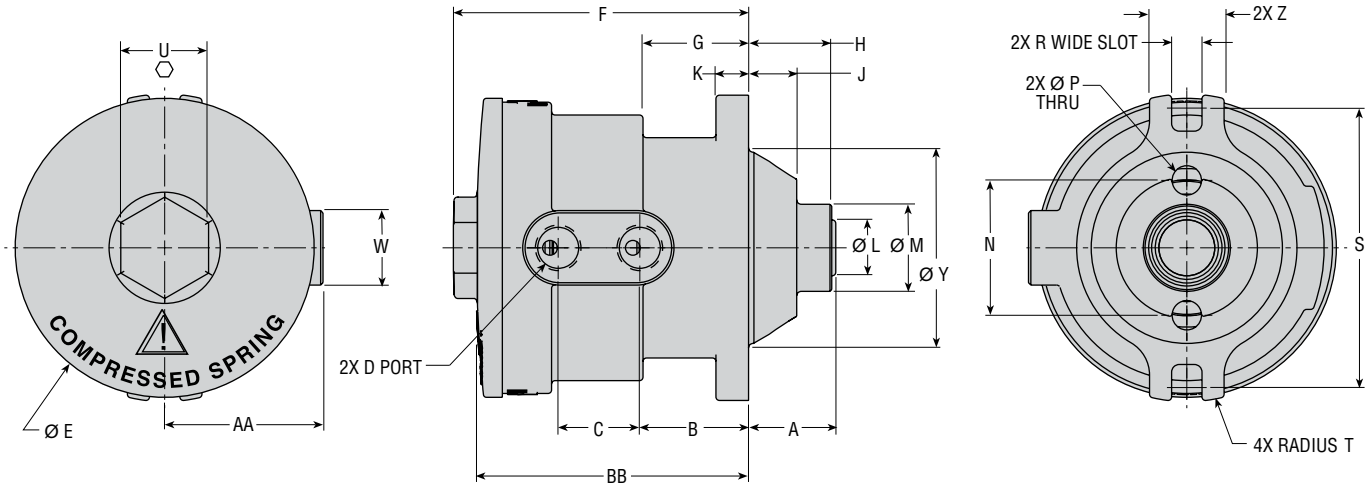
WASHDOWN SPECIFICATIONS

Series FCA Cylinders are washdown compliant with Ecolab Foam Shine® and Ecolab LC-30® cleaning products.

MAINTENANCE

Repair kits, piston and rod assemblies, and main structural components are available as needed for extended service. Tooling kits are also available for Series FCA Cylinder rebuild.

DIMENSIONS & PLUMBING SCHEMATIC: SERIES FCA

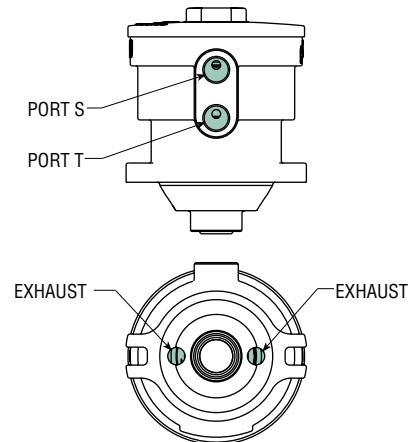
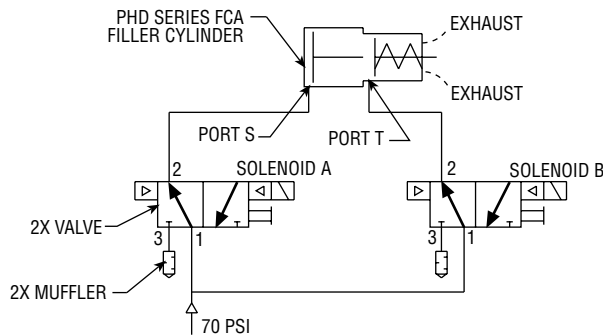


UNIT SIZE	LETTER DIMENSION A		
	FULL RETRACT	MID EXTEND	FULL EXTEND
FCA1D-5-50	0.737 [18.7]	0.887 [22.5]	1.180 [30.0]
FCA2D-5-50	0.737 [18.7]	0.983 [25.0]	1.180 [30.0]
FCA3D-5-50	0.737 [18.7]	0.934 [23.7]	1.180 [30.0]

UNIT SIZE	LETTER DIMENSION									
	B	C	D	Ø E	F	G	H	J	K	Ø L
FCAXD-5-50	0.919 [23.3]	0.690 [17.5]	1/8 BSPP 1/8 BSPP	2.527 [64.2]	2.489 [63.2]	0.892 [22.7]	0.703 [17.9]	0.407 [10.3]	0.276 [7.0]	0.472 [12.0]

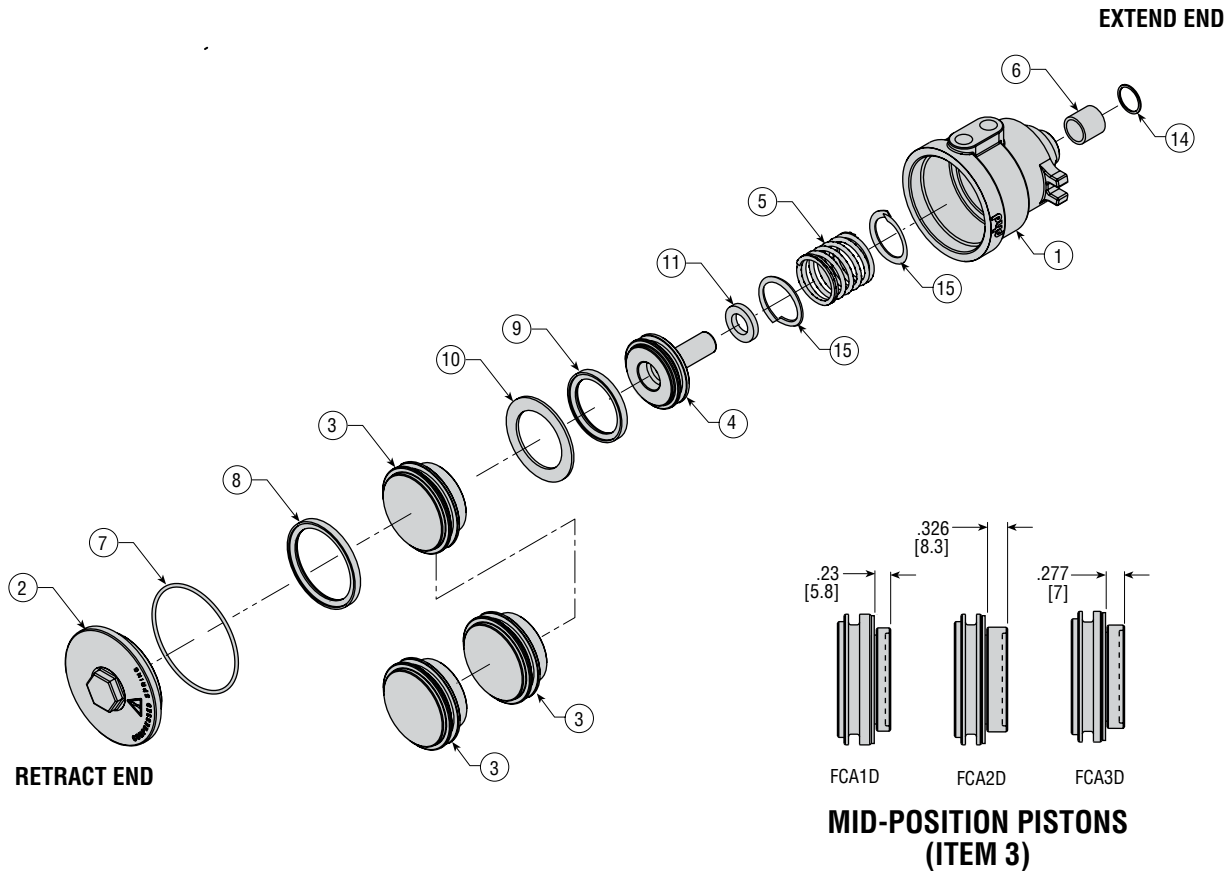
UNIT SIZE	LETTER DIMENSION												
	Ø M	M ± TOL.	N	Ø P	R	S	T	HEX U	W	Ø Y	Z	AA	BB
FCAXD-5-50	0.7360 [18.69]	0.001 [.03]	1.120 [28.4]	0.248 [6.3]	0.257 [6.5]	2.362 [60.0]	1.300 [33.0]	0.742 [18.8]	0.630 [16.0]	1.616 [41.0]	0.630 [16.0]	1.338 [34.0]	2.292 [58.2]

NOTE: DIMENSIONS SHOWN IN [] ARE IN mm



CYCLE	CYLINDER CYCLE			
	PRESSURE		VALVE	
	PORT S	PORT T	SOL. A	SOL. B
FAST FILL	OFF	OFF	ON	ON
SETTLE (NO FILL)	ON	ON	OFF	OFF
SLOW FILL	ON	OFF	OFF	ON
NO FILL	ON	ON	OFF	OFF

EXPLODED VIEW & PARTS LIST: SERIES FCA FILLER CYLINDERS



KEY	PART DESCRIPTION	FCA1D-5-50	FCA2D-5-50	FCA3D-5-50
1	Finished Body		Full unit description required (-H2410)	
2	Finished Cap		Full unit description required (-H1205)	
3	Mid-Position Piston		Full unit description required (-H1015)	
4	Piston & Rod		Full unit description required (-H1000)	
5	Spring		Full unit description required (-H1600)	
6	Rod Bushing		Full unit description required (-H3400), or Sold as part of Repair Kit (-H9010)	
7	O-Ring Seal		Full unit description required, Sold as part of Seal Kit (-H9000) & Repair Kit (-H9010)	
8	Mid-Position Piston Seal		Full unit description required, Sold as part of Seal Kit (-H9000) & Repair Kit (-H9010)	
9	Piston & Rod Seal		Full unit description required, Sold as part of Seal Kit (-H9000) & Repair Kit (-H9010)	
10	Mid-Position Piston Shock Pad		Full unit description required (-H1800)	
11	Piston & Rod Shock Pad		Full unit description required (-H1830)	
14	Stainless Steel Retaining Ring		Full unit description required (-H7111), or Sold as part of Repair Kit (-H9010)	
15	Spring Coil Isolator		Full unit description required (-H3470), or Sold as part of Repair Kit (-H9010)	

KITS

KIT DESCRIPTION	FCAxD-5-50
Seal Kit	81303
Repair Kit	81288
Seal Assembly Tooling Kit	81304

All dimensions are reference only unless specifically tolerated.

2 Position Filler Cylinder

ML #309348 (2 position)

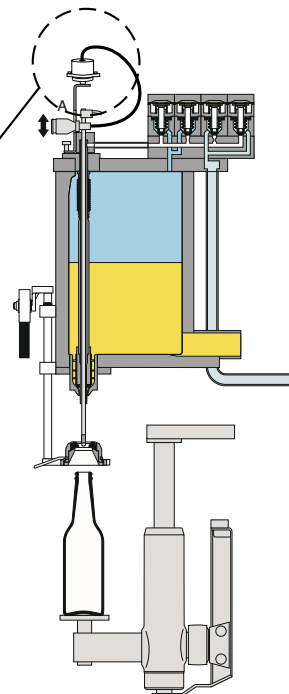
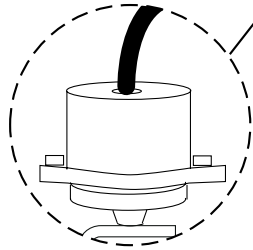
For Fillers

BENEFITS

- Reliable, field-tested design provides consistent performance, reducing under and over fills
- Replaces failure prone diaphragm with simple piston design for superior operation
- Clean, hygienic, round design for easy washdown
- Passivated stainless steel for food and beverage industry
- Drop-in replacement for certain Krones® filler valves requires no modifications to implement this product
- Global availability and support
- Superior delivery



**FOR DIMENSIONAL
INFORMATION,
SEE CP309348**



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