



FEATURING  
CUSTOMIZABLE  
COMPONENTS TO  
MEET SPECIFIC  
APPLICATION  
REQUIREMENTS

**CHECK VALVES,  
PUMPS, & MORE**

**SMARTPRODUCTS.COM**  
TOLL FREE: 1800.338.0404





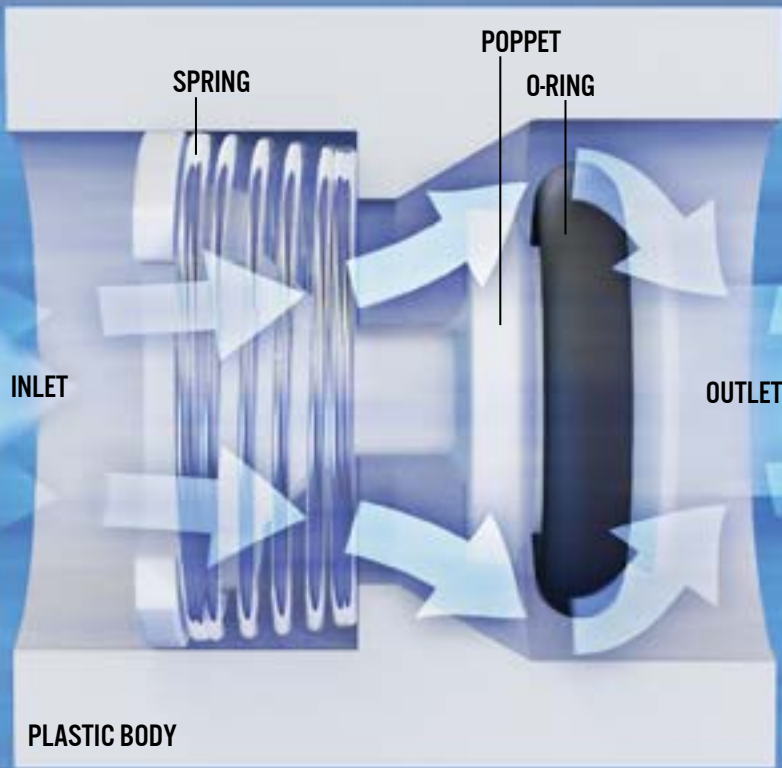
# OEM PARTS MADE TO ORDER

OUR CHECK & PRESSURE RELIEF VALVES AND LIQUID & AIR PUMPS PROVIDE ACCURATE, RELIABLE FLOW CONTROL IN ADVANCED, LOW PRESSURE, LOW FLOW SYSTEMS. ADDITIONALLY, OUR PRODUCTS ARE:

CUSTOMIZABLE • PRECISE • ECONOMICAL • HIGHEST QUALITY •  
IDEAL FOR LIQUID AND GAS • FDA & NSF COMPLIANT MATERIAL •  
CORROSION RESISTANT

SMART PRODUCTS ALSO PROVIDES ADDITIONAL SERVICES SUCH AS SPECIAL TESTING, CLEANROOM MOLDING & ASSEMBLY, HOT MELT GLUING, AND OTHER VALUE-ADDED SOLUTIONS. WE USE OUR EXPERTISE TO CREATE QUALITY AND PRECISE PRODUCTS TO MEET YOUR EXACTING REQUIREMENTS.





## PRESSURE CAPABILITIES & LIMITATIONS IN OUR CHECK VALVES

WE'RE OFTEN ASKED: "HOW HIGH CAN YOUR VALVES GO?" OR, "HOW LOW CAN YOUR VALVES GO?"

TO GET A BETTER IDEA ABOUT PRESSURE CAPABILITIES AND LIMITATIONS IN OUR VALVES, IT'S IMPORTANT TO KNOW WHICH PRESSURE STAGE MIGHT BE MOST CRITICAL TO YOUR APPLICATION'S PERFORMANCE. DURING CHECK VALVE OPERATION, EACH VALVE GOES THROUGH FOUR DIFFERENT STAGES OF PRESSURE:

- OPENING PRESSURE
- FLOW (AKA STEADY-STATE OR REGULATED) PRESSURE
- CHECK (AKA BACK) PRESSURE
- RESEALING PRESSURE

THE OPENING PRESSURE FOR OUR VALVES RANGES FROM 0.09 TO 20 PSI. THEN, THE MAXIMUM PRESSURE IN THE FLOW DIRECTION (INLET) AND FOR THE CHECK DIRECTION (OUTLET) CAN GO UP TO 60+ PSI. FINALLY, THE RESEAL PRESSURE WILL ALWAYS BE LOWER THAN THE SELECTED OPENING PSI.

ALSO NOTE, WE CAN ADJUST A VALVE'S PRESSURE CAPABILITIES BY LOOKING AT THE O-RING'S DUROMETER (HARDNESS OF RUBBER). FOR EXAMPLE, IF YOU'RE LOOKING FOR HIGHER BACK PRESSURE PERFORMANCE IN OUR VALVES, WE MAY RECOMMEND O-RINGS AT A HIGHER DUROMETER. FOR APPROXIMATE VALVE BURST PRESSURES PER A SPECIFIC CHECK VALVE MODEL #, CONTACT A PRODUCT & APPLICATION SPECIALIST AT 1-800-338-0404. ADDITIONALLY, OUR ENGINEERS CONSISTENTLY TEST OUR VALVES AND THEIR COMPONENTS, SO IF YOUR APPLICATION REQUIRES AN OPENING OR FLOW/CHECK PRESSURE NOT MENTIONED HERE, BE SURE TO INQUIRE WITH US.

AS A CUSTOM VALVE MANUFACTURER, WE RECOMMEND THAT YOU SAMPLE THE VALVE THAT YOU ARE INTERESTED IN AND TEST IT IN YOUR APPLICATION. A PRODUCT & APPLICATION SPECIALIST CAN HELP YOU CHOOSE COMPONENTS (BODY MATERIAL, O-RING, SPRING PRESSURE, AND MORE) IDEAL FOR YOUR DEVICE REQUIREMENTS.

FOR MORE INFO ON HOW OUR VALVES WORK VISIT:  
[HTTPS://SMARTPRODUCTS.COM/TECHNICAL-RESOURCES/CHECK-VALVE-OPERATION/](https://smartproducts.com/technical-resources/check-valve-operation/)

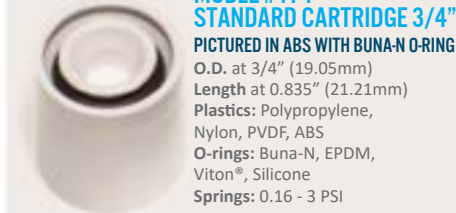


# SERIES 100 STANDARD CARTRIDGE

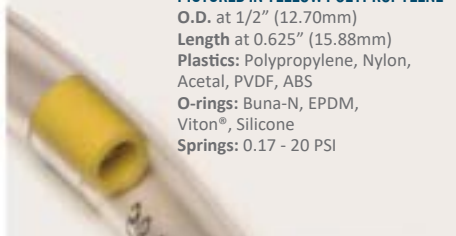
SMOOTH BODY DESIGN  
IN A VARIETY OF SIZES



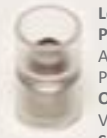
**MODEL #170 -  
STANDARD CARTRIDGE 3/4"**  
PICTURED IN GREEN POLYPROPYLENE  
& IN ACRYLIC WITH SILICONE O-RING  
O.D. at 3/4" (19.05mm)  
Length at 1.125" (28.58mm)  
Plastics: Polypropylene, Nylon,  
Acrylic, Acetal, PVDF, ABS  
O-rings: Buna-N, EPDM,  
Viton®, Silicone  
Springs: 0.16 - 3 PSI



**MODEL #174 -  
STANDARD CARTRIDGE 3/4"**  
PICTURED IN ABS WITH BUNA-N O-RING  
O.D. at 3/4" (19.05mm)  
Length at 0.835" (21.21mm)  
Plastics: Polypropylene,  
Nylon, PVDF, ABS  
O-rings: Buna-N, EPDM,  
Viton®, Silicone  
Springs: 0.16 - 3 PSI



**MODEL #140 -  
STANDARD CARTRIDGE 1/2"**  
PICTURED IN YELLOW POLYPROPYLENE  
O.D. at 1/2" (12.70mm)  
Length at 0.625" (15.88mm)  
Plastics: Polypropylene, Nylon,  
Acetal, PVDF, ABS  
O-rings: Buna-N, EPDM,  
Viton®, Silicone  
Springs: 0.17 - 20 PSI



**MODEL #130 -  
STANDARD CARTRIDGE 3/8"**  
PICTURED IN ACRYLIC WITH VITON® O-RING  
O.D. at 3/8" (9.53mm)  
Length at 0.640" (16.26mm)  
Plastics: Polypropylene, Nylon,  
Acrylic, Acetal, PVDF,  
Polycarbonate, Ultem®, ABS  
O-rings: Buna-N, EPDM,  
Viton®, Silicone  
Springs: 0.17 - 20 PSI



**MODEL #157 -  
MANUAL RELIEF BLEED VALVE 5/8"**  
PICTURED IN POLYCARBONATE WITH KALREZ® O-RING  
O.D. at 5/8" (15.88mm)  
Length at 0.630" (16.00mm)  
Plastics: Polypropylene, Nylon, Acrylic,  
Acetal, PVDF, Polycarbonate, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®, Silicone,  
Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 8 PSI



**MODEL #150 -  
STANDARD CARTRIDGE 5/8"**  
PICTURED IN RADEL® WITH AFLAS® O-RING  
O.D. at 5/8" (15.88mm)  
Length at 0.630" (16.00mm)  
Plastics: Polypropylene, Nylon, Acrylic,  
Acetal, PVDF, Polycarbonate, Ultem®,  
ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†,  
Kalrez®†  
Springs: 0.11 - 8 PSI



**MODEL #160 -  
STANDARD CARTRIDGE 5/8"**  
PICTURED IN BLACK NYLON  
O.D. at 5/8" (15.88mm)  
Length at 0.630" (16.00mm)  
Plastics: Polypropylene, Nylon, Acrylic, Acetal,  
PVDF, Polycarbonate, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®, Silicone  
Springs: 0.17 - 20 PSI



**MODEL #110 -  
STANDARD CARTRIDGE 1/4"**  
PICTURED ABOVE IN ULTEM® WITH EPDM O-RING  
& BELOW IN ACETAL WITH BUNA-N O-RING  
O.D. at 1/4" (6.35mm)  
Length at 0.500" (12.70mm)  
Plastics: Polypropylene, Nylon,  
Acrylic, Acetal, PVDF, Polycarbonate,  
Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI

†NOT AVAILABLE WITH SPRINGS LESS THAN 0.5 PSI.

NOTE: VALVES ARE NOT PICTURED TO ACTUAL SIZE. OUR PRODUCTS ARE SUBJECT TO CONTINUOUS IMPROVEMENT. WE RESERVE THE RIGHT TO CHANGE FEATURES, PROCESSES, MATERIALS, TESTING, & OTHER SPECIFICATIONS, AS NECESSARY. SMART PRODUCTS USA STRONGLY RECOMMENDS CUSTOMERS TEST PRODUCTS FOR EACH APPLICATION-SPECIFIC USE.

ALL MODEL #S ARE CUSTOMIZABLE BY PLASTIC BODY, O-RING, & OPENING PSI. NEED A MATERIAL OR OPENING PSI NOT LISTED? JUST ASK OUR SALES DEPARTMENT FOR ASSISTANCE.



INTERNAL COMPONENTS:  
O-RING,  
SPRING, &  
POPPET IN  
PLASTIC BODY  
CARTRIDGE

## SERIES 100 SPECIALTY SMALL SIZES, MANY STYLES



**MODEL #101 - MICRO BARBED 1/8"**  
PICTURED IN POLYCARBONATE WITH SILICONE CONE SEAL  
Fits Tubing I.D. at 1/8" (3.175mm)  
Length at 0.375" (9.53mm)  
Plastics: Polypropylene, Nylon, PVDF, Polycarbonate, Ultem®, Radel®  
O-rings: Buna-N, Silicone  
Springs: 0.58 - 20 PSI

**MODEL #111 - BARBED 1/4"**  
PICTURED IN ULTEM® WITH VITON® O-RING

Fits Tubing I.D. at 1/4" (6.35mm)  
Length at 0.475" (12.07mm)  
Plastics: Polypropylene, Nylon, Acrylic, Acetal, PVDF, Polycarbonate, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI



**MODEL #118 - BARBED 1/4" REVERSE FLOW OF #111**

PICTURED IN ACRYLIC WITH SILICONE O-RING  
Fits Tubing I.D. at 1/4" (6.35mm)  
Length at 0.475" (12.07mm)  
Plastics: Polypropylene, Nylon, Acrylic, Acetal, PVDF, Polycarbonate, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI



**MODEL #13A - FLANGED INLET 3/8"**  
PICTURED IN POLYCARBONATE WITH SILICONE ORING

Body O.D. at 0.375" (9.53mm)  
Length at 0.640" (16.26mm)  
Flange at 0.42" (10.668mm)  
Plastics: Polypropylene, PVDF, Polycarbonate  
O-rings: Buna-N, EPDM, Viton®, Silicone  
Springs: 0.17 - 20 PSI



**MODEL #14C - TAPERED FLANGED INLET 1/2"**

PICTURED IN BLACK NYLON  
Body O.D. at 0.50" (12.70mm)  
Length at 0.69" (17.526mm)  
Flange at 0.62" (15.748mm)  
Plastics: Polypropylene, Nylon  
O-rings: Buna-N, EPDM, Viton®, Silicone  
Springs: 0.17 - 20 PSI



**MODEL #15B - FLANGED OUTLET 5/8"**

PICTURED IN ACETAL WITH BUNA-N O-RING  
Body O.D. at 0.625" (15.88mm)  
Length at 0.58" (14.732mm)  
Flange at 0.685" (17.399mm)  
Plastics: Polypropylene, Nylon, Acetal  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 8 PSI



**MODEL #103 - NPT 1/8"**  
PICTURED IN ACETAL WITH SILICONE O-RING

NPT Size at 0.438" (11.13mm)  
Note: fits 7/16" wrench or socket  
Length at 0.590" (14.99mm)  
Plastics: Polypropylene, Nylon, Acetal, Polycarbonate, Ultem®  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI



**MODEL #109 - NPT 1/8" REVERSE FLOW OF MODEL #103**

PICTURED IN ULTEM® WITH FLUOROSILICONE O-RING  
NPT Size at 0.438" (11.13mm)  
Note: Fits 7/16" wrench or socket  
Length at 0.590" (14.99mm)  
Plastics: Polypropylene, Nylon, Acetal, Polycarbonate, Ultem®  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI

**MODEL #122 - SIDE SEAL 5/16"**  
PICTURED IN RADEL® WITH EPDM O-RINGS

O.D. at 0.305" (7.747mm)  
Length at 0.5" (12.7mm)  
Plastics: Polypropylene, Nylon, Acrylic, Acetal, PVDF, Polycarbonate, Ultem®, ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®, Silicone  
Springs: 0.09 - 20 PSI



**MODEL #132 - SIDE SEAL 3/8"**  
PICTURED IN ABS WITH VITON® O-RINGS

O.D. at 0.365" (9.27mm)  
Length at 0.392" (9.96mm)  
Plastics: Polypropylene, Nylon, Acrylic, Acetal, PVDF, Polycarbonate, Ultem®, ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI



**MODEL #154 - SIDE SEAL & FLANGED INLET 5/8"**

PICTURED IN PVDF WITH VITON® O-RINGS  
O.D. at 0.625" (15.88mm)  
Length at 0.455" (11.56mm)  
Flange at 0.680" (17.27mm)  
Plastics: Polypropylene, Nylon, Acrylic, PVDF, Polycarbonate, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflas®†  
Springs: 0.11 - 8 PSI



**MODEL #152 - SIDE SEAL 5/8"**  
PICTURED IN ACRYLIC WITH FLUOROSILICONE O-RINGS

O.D. at 0.625" (15.88mm)  
Length at 0.515" (13.08mm)  
Plastics: Polypropylene, Nylon, Acrylic, PVDF, Polycarbonate, Ultem®, ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflas®†  
Springs: 0.11 - 8 PSI



**MODEL #191 - SIDE SEAL & FLANGED OUTLET 5/8"**

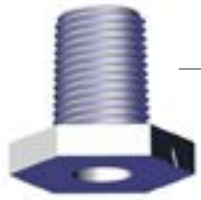
PICTURED IN PURPLE POLYPROPYLENE WITH EPDM O-RINGS  
O.D. at 0.625" (15.88mm)  
Length at 0.455" (11.56mm)  
Flange at 0.680" (17.27mm)  
Plastics: Polypropylene, Nylon, Acrylic, PVDF, Polycarbonate, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflas®†  
Springs: 0.11 - 8 PSI

†NOT AVAILABLE WITH SPRINGS LESS THAN 0.5 PSI.

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ALL MODEL #S ARE CUSTOMIZABLE BY PLASTIC BODY, O-RING, & OPENING PSI. NEED A MATERIAL OR OPENING PSI NOT LISTED? JUST ASK OUR SALES DEPARTMENT FOR ASSISTANCE.





MIX & MATCH  
NPT & METRIC  
STYLE OPTIONS



INTERNAL  
COMPONENTS:  
O-RING, SPRING,  
& POPPET



# SERIES 200 MALE NPT & METRIC STYLES



MIX & MATCH MALE NPT -  
1/4" & 1/8": MODEL #212/214  
PICTURED IN BLUE ABS

May combine Model #212 and #214 or  
use the same NPT size on both ends



MODEL #214-  
MALE NPT 1/8"

PICTURED IN BLACK NYLON

Overall Size at 0.67"

Length at 1.37"

Plastics: Polypropylene, Nylon, ABS

O-rings: Buna-N, EPDM, Viton®,

Silicone, Fluorosilicone

Springs: 0.09 - 20 PSI



MODEL #212-  
MALE NPT 1/4"

PICTURED IN BLUE ABS

Overall Size at 0.67"

Length at 1.37"

Plastics: Polypropylene, Nylon, ABS

O-rings: Buna-N, EPDM, Viton®,

Silicone, Fluorosilicone

Springs: 0.09 - 20 PSI

MODEL #M10/212 -  
METRIC WITH MALE 1/4"

PICTURED IN PVDF WITH EPDM O-RINGS

Overall Size at 0.67"

Length at 1.26"

Plastics: Polypropylene, Nylon, Acetal, PVDF

O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone

Springs: 0.09 - 20 PSI



MODEL #M10/214-  
METRIC WITH MALE NPT 1/8"

PICTURED IN BLACK NYLON WITH SILICONE O-RINGS

Overall Size at 0.67"

Length at 1.26"

Plastics: Polypropylene, Nylon, Acetal, PVDF

O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone

Springs: 0.09 - 20 PSI



MODEL #224-  
COMPRESSION FITTING 1/4"

PICTURED IN POLYPROPYLENE

Size O.D. at 0.713"

Length at 0.625"

Plastics: Polypropylene

Note: Compression Fitting at 1/4" size

for use with Model #212 (shown) or

Model #214 on inlet or outlet sides



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# SERIES 300 MODULAR MIX & MATCH END FITTINGS



13+ STYLE  
OPTIONS

INTERNAL  
CARTRIDGE  
VALVE &  
ADDITIONAL  
O-RINGS FOR  
SUPERIOR  
SEALING

### MODEL #300 - BARBED 1/16"

PAIRED WITH SAME MODEL #300  
PICTURED IN RED POLYPROPYLENE  
Tubing I.D. at 1/16" (1.58mm)  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #302 - BARBED 1/8"

PAIRED WITH SAME MODEL #302  
PICTURED IN ULTEM® WITH BUNA-N O-RINGS  
Tubing I.D. at 1/8" (3.18mm)  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #305 - BARBED 5/16"

PAIRED WITH SAME MODEL #305  
PICTURED IN ABS  
Tubing I.D. at 5/16" (7.94mm)  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #314 - NPT 1/8"

PAIRED WITH SAME MODEL #314  
PICTURED IN RADEL® WITH FLUOROSILICONE O-RINGS  
NPT Size at 1/8"  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #301 - BARBED 3/32"

PAIRED WITH SAME MODEL #301  
PICTURED IN BLACK NYLON  
Tubing I.D. at 3/32" (2.38mm)  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†,  
Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #304 - BARBED 1/4"

PAIRED WITH SAME MODEL #304  
PICTURED IN RADEL® WITH EPDM O-RINGS  
Tubing I.D. at 1/4" (6.35mm)  
Plastics: Polypropylene, Nylon, PVDF,  
Ultem®, ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®, Silicone,  
Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #308 - BARBED 1/2"

PAIRED WITH MODEL #304  
PICTURED IN BLACK NYLON  
Tubing I.D. at 1/2" (12.70mm)  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†,  
Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #312 - NPT 1/4"

PAIRED WITH MODEL #302  
PICTURED IN PVDF WITH BUNA-N O-RINGS  
NPT Size at 1/4"  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†,  
Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #330 - MANUAL RELIEF

PAIRED WITH MODEL #302  
PICTURED IN RED POLYPROPYLENE  
Unique style provides pressure or  
vacuum relief at the touch of a  
button. Threaded for panel  
mounting; 5/8-18 thread pitch  
Plastics: Polypropylene  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†,  
Kalrez®†

### MODEL #303 - BARBED 3/16"

PAIRED WITH SAME MODEL #303  
PICTURED IN BLUE POLYPROPYLENE  
Tubing I.D. at 3/16" (4.76mm)  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #306 - BARBED 3/8"

PAIRED WITH SAME MODEL #306  
PICTURED IN ULTEM® WITH AFLAS® O-RINGS  
Tubing I.D. at 3/8" (9.525mm)  
Plastics: Polypropylene, Nylon,  
PVDF, Ultem®, ABS  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

### MODEL #361 - SMOOTH STEM 3/8"

PAIRED WITH MODEL #314  
PICTURED IN ABS  
Tubing I.D. at 3/8" (9.525mm)  
Plastics: Polypropylene, Nylon, PVDF,  
Ultem®, ABS, Radel®  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone, Aflas®†, Kalrez®†  
Springs: 0.11 - 20 PSI

†NOT AVAILABLE WITH SPRINGS LESS THAN 0.5 PSI.

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# SERIES 500 MINIATURE MODULAR MIX & MATCH END FITTINGS

4+ BARB & LUER  
STYLE OPTIONS

INTERNAL CARTRIDGE  
VALVE & ADDITIONAL  
O-RINGS FOR SUPERIOR  
SEALING



MODELS #500/502  
IN POLYCARBONATE  
& ULTEM® WITH  
BUNA-N O-RINGS

MODEL #502/502  
IN ULTEM® WITH  
BUNA-N O-RINGS

MODEL #541/502  
IN PURPLE  
POLYPROPYLENE

MODEL #541/541  
IN PVDF WITH  
FLUOROSILICONE  
O-RINGS

MODEL #500/500  
IN POLYCARBONATE  
WITH SILICONE O-RINGS



**MODEL #500 - BARBED 1/16"**  
**PAIRED WITH MODEL #502**

**PICTURED IN POLYCARBONATE WITH BUNA-N O-RINGS**  
Tubing I.D. at 1/16" (1.58mm)  
Plastics: Polypropylene, PVDF,  
Polycarbonate, Ultem®  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI

**MODEL #502 - BARBED 1/8"**  
**PAIRED WITH SAME MODEL #502**  
**PICTURED IN PVDF WITH SILICONE O-RINGS**

Tubing I.D. at 1/8" (3.18mm)  
Plastics: Polypropylene, PVDF,  
Polycarbonate, Ultem®  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI



**MODEL #541 - FEMALE LUER LOCK**  
**PAIRED WITH MODEL #502**

**PICTURED IN ULTEM® WITH FLUOROSILICONE O-RINGS**  
Plastics: Polypropylene, PVDF,  
Polycarbonate, Ultem®  
O-rings: Buna-N, EPDM, Viton®,  
Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI



**MODEL #542 - MALE LUER**  
**PAIRED WITH SAME MODEL #542**

**PICTURED IN ORANGE / WHITE POLYPROPYLENE**  
Plastics: Polypropylene  
O-rings: Buna-N, EPDM,  
Viton®, Silicone, Fluorosilicone  
Springs: 0.09 - 20 PSI



NOTE: VALVES ARE NOT PICTURED TO ACTUAL SIZE. OUR PRODUCTS ARE SUBJECT TO CONTINUOUS IMPROVEMENT. WE RESERVE THE RIGHT TO CHANGE FEATURES, PROCESSES, MATERIALS, TESTING, & OTHER SPECIFICATIONS, AS NECESSARY. SMART PRODUCTS USA STRONGLY RECOMMENDS CUSTOMERS TEST PRODUCTS FOR EACH APPLICATION-SPECIFIC USE.

ALL MODEL #S ARE CUSTOMIZABLE BY PLASTIC BODY, O-RING, & OPENING PSI. NEED A MATERIAL OR OPENING PSI NOT LISTED? JUST ASK OUR SALES DEPARTMENT FOR ASSISTANCE.





# SERIES 3000 LIQUID PUMPS

ENERGY-EFFICIENT, DURABLE, & DEPENDABLE

## FEATURES

### PUMP OVERVIEW

Self-priming, single diaphragm positive displacement, runs wet or dry

### PORTS

Choice of 1/8" or 1/4" FNPT

### VOLTAGE

12-24 VDC

### MAX START UP CONSUMPTION

1500 mA

### ELECTRICAL CONNECTIONS

Spade type terminals

### SIZE

1.66"W x 3.0"L x 3.7"H  
(42.16 x 76.20 x 93.98 mm)

### MOTOR

Permanent magnet DC

### WEIGHT

9.3 oz. (263 g)

### TEMPERATURE RANGE

220°F (104°C) maximum

### DUTY CYCLE

1000 hours continuous duty @ 12 VDC\*

### PUMP BODY

Nylon 6

### O-RINGS

Buna-N, EPDM, Viton®, Silicone

### DIAPHRAGMS

Teflon®

### SPRINGS

316 stainless steel or Hastelloy-C\*\*

### VALVES

Spring-loaded poppet, molded as part of the body

All standard materials are FDA compliant

\*Lifetime will vary depending on usage \ \*\*Hastelloy-C only available with 1/4" FNPT ports

NOTE: Pumps are not pictured to actual size. Our products are subject to continuous improvement. We reserve the right to change features, processes, materials, testing, & other specifications as necessary. Smart Products strongly recommends that customers test products for each application-specific use.

## OPTIONS BY MODEL

MODEL	#SP3210 (1/8" FNPT PORT) #SP3410 (1/4" FNPT PORT)	#SP3215 (1/8" FNPT PORT) #SP3415 (1/4" FNPT PORT)	#SP3220 (1/8" FNPT PORT) #SP3420 (1/4" FNPT PORT)
POWER CONSUMPTION	~300-500 mA	~300-600 mA	~300-700 mA
MAX OUTPUT PRESSURE	40 PSI @ 12 VDC (2.8 Bar) 60 PSI @ 24 VDC (4.1 Bar)	26 PSI @ 12 VDC (1.8 Bar) 60 PSI @ 24 VDC (4.1 Bar)	19 PSI @ 12 VDC (1.3 Bar) 45 PSI @ 24 VDC (3.1 Bar)
MAX FLOW RATE	9.1 GPH @ 12 VDC (34.4 LPH)	12.7 GPH @ 12 VDC (48.1 LPH)	16.6 GPH @ 12 VDC (62.8 LPH)
VACUUM	18 inHg wet, 3.6 inHg dry @12 VDC (457 mmHg wet, 91 mmHg dry)	21 inHg wet, 5.3 inHg dry @12 VDC (533 mmHg wet, 135 mmHg dry)	22 inHg wet, 8.6 inHg dry @12 VDC (559 mmHg wet, 218 mmHg dry)



# SERIES 8000 AIR PUMPS

ENERGY-EFFICIENT, DURABLE, & DEPENDABLE

## FEATURES

MODEL	#SP8000		
PUMP OVERVIEW	Single diaphragm, positive displacement	TYPICAL PERFORMANCE	0.035 CFM @ 14.5 PSI (1.0 LPM @ 1 Bar)
PORTS	3/16" barb	VACUUM	18 inHg (457 mmHg)
APPROVALS	FAA approved (D0160C)	MOTOR	Permanent magnet DC
VOLTAGE RANGE	12 or 24 VDC	SIZE	1.5"W x 2.28"L x 3.7"H (38.1 x 57.9 x 93.98 mm)
POWER CONSUMPTION	Less than 1 amp	WEIGHT	0.5 lb. (227 g)
ELECTRICAL CONNECTIONS	Spade type terminals	TEMPERATURE RANGE	32° - 220° F (0° - 104° C) estimated
MAX OUTPUT PRESSURE	20 PSI (1.38 Bar)	DUTY CYCLE	1000 hours @ 100% duty cycle*
MAX FLOW RATE	0.14 CFM (4 LPM), 8.5 CFH (240 LPH)	MATERIALS	Pump body: Nylon FDA Diaphragm & Valves: Buna-N FDA, Viton® FDA

\*Lifetime will vary depending on usage

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AP-3P04



AP-2P02A



AP-2P01



# SERIES AP MICRO PRESSURE PUMPS

## MICRO SIZE WITH MAXIMUM DURABILITY

### FEATURES

#### PUMP OVERVIEW

Rotary diaphragm, miniature, ideal for battery powered applications

#### PUMP BODY & RETAINER BASE

Celcon® M90 Natural

#### TOP COVER

ABS 757 Natural (N/A for #AP-3P04)

#### ELECTRICAL CONNECTIONS

Terminals extend from top of pump

#### PISTON

Delrin® 500 AL

#### DIAPHRAGM

Buna 50° A

#### VALVES

Suction valve in Buna 50° A, discharge valve in Buna 45-50° A

#### CAP

ABS 757 Natural

#### FUNCTION

Creates pressure for air flow

NOTE: Pumps are not pictured to actual size. Our products are subject to continuous improvement. We reserve the right to change features, processes, materials, testing, & other specifications as necessary. Smart Products strongly recommends that customers test products for each application-specific use.

### OPTIONS BY MODEL

MODEL	#AP-2P01	#AP-2P02A	#AP-3P04
PORTS	3mm outlet	3mm outlet	4mm outlet
VOLTAGE RANGE	Nominal 3 VDC, 2.0 - 3.2 VDC	Nominal 3 VDC, 1.9 - 3.1 VDC	Nominal 12 VDC
POWER CONSUMPTION	Max 460 mA	Max 320 mA	Max 270 mA
NOISE	<60 dBA @10cm	<65 dBA @10cm	<55 dBA @1ft
MAX OUTPUT PRESSURE	6.76 PSI (350mmHg)	6.76 PSI (350mmHg)	11.0 PSI (570mmHg)
MAX FLOW RATE	1.48 SCFH (0.7 LPM)	0.42 SCFH (0.2 LPM)	3.18 SCFH (1.5 LPM)
PRESSURE DROP	<2 mmHg/min from 300 mmHg	<2 mmHg/min from 300 mmHg	<3 mmHg/min from 525 mmHg
SIZE	1.566"W x 0.472"L x 0.827"H (39.78 x 11.99 x 21.00 mm)	1.301"W x 0.394"L x 0.650"H (33.04 x 10.01 x 16.51 mm)	2.550"L x 1.18" Diameter (64.77 x 29.97 mm)
WEIGHT	0.55 oz. (15.5 g)	0.28 oz. (8.0 g)	2.12 oz. (60.0 g)
DUTY CYCLE	Tested to 30,000 operating cycles	Tested to 30,000 operating cycles	Tested to >80,000 operating cycles





## PRECISE, CUSTOMIZABLE, & UNIQUE IN THE INDUSTRY

AT SMART PRODUCTS, WE OFFER A WIDE ARRAY OF COMPONENTS TO FIT SPECIFIC DEVICE REQUIREMENTS. TO ENSURE OPTIMAL PRODUCT PERFORMANCE EVERY TIME, IT IS IMPORTANT TO COMMUNICATE ANY LIQUIDS/GASSES USED, APPLICATION ENVIRONMENT, AND INTENDED SHELF LIFE. THE MORE WE KNOW ABOUT YOUR LOW PRESSURE, LOW FLOW NEEDS, THE BETTER EQUIPPED WE WILL BE IN SELECTING THE RIGHT COMPONENTS TO CREATE A PRECISE AND ACCURATE PRODUCT EXCLUSIVELY FOR YOUR APPLICATION.

FOR EXPERT TECHNICAL ASSISTANCE OR TO GET STARTED ON BUILDING YOUR OWN CUSTOM PRODUCT, CALL 1-800-338-0404 OR EMAIL [SALES@SMARTPRODUCTS.COM](mailto:SALES@SMARTPRODUCTS.COM).



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