OUR CHECK AND PRESSURE RELIEF VALVES, JACO SMART FITTINGS, AND LIQUID AND AIR PUMPS PROVIDE ACCURATE, RELIABLE FLOW CONTROL IN ADVANCED, LOW PRESSURE, LOW FLOW SYSTEMS. UNIQUE IN THE INDUSTRY, 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 CUSTOM DESIGNS, SPECIAL TESTING, CUSTOM ASSEMBLIES, AND OTHER VALUE-ADDED SERVICES TO MEET A SPECIFIC DESIGN CRITERIA.
SMART PRODUCTS USA, INC. RECENTLY OPENED OUR NEW MANUFACTURING FACILITY IN MILLS RIVER, NC, LOCATED JUST SOUTH OF ASHEVILLE.

FOR OVER 30 YEARS, SMART PRODUCTS HAS SPECIALIZED IN INJECTION MOLDING TECHNOLOGY AND THE HIGHEST QUALITY ASSEMBLY PROCESSES TO PRODUCE CHECK VALVES, PUMPS, AND RELATED COMPONENTS. OUR PRODUCTS ARE USED IN A VARIETY OF INDUSTRY SECTORS INCLUDING AUTOMOTIVE, FOOD AND BEVERAGE, WATER TREATMENT, AND MEDICAL.

THE NEW FACILITY CONTINUES THIS TRADITION AND ALSO FEATURES A NEW LEVEL 10,000 CLEAN ROOM, WHICH WILL GIVE US THE ABILITY TO TAKE CLEAN ROOM PRODUCTION FROM INJECTION MOLDING THROUGH FINAL ASSEMBLY IN A CLEAN ENVIRONMENT.

OUR COMPANY IS COMMITTED TO QUALITY. HENDERSON COUNTY AND THE TOWN OF MILLS RIVER HAVE SHOWCASED THE RESOURCES WE NEED TO CONTINUE PRODUCING OUR PRODUCT AND STAY COMPETITIVE IN THE INDUSTRY. ALL OF US ANTICIPATE A BRIGHT FUTURE IN NORTH CAROLINA.
HOW DO OUR VALVES WORK?

WHEN YOU'RE CREATING A LOW PRESSURE, LOW FLOW APPLICATION, IT PAYS TO UNDERSTAND HOW CHECK VALVES WORK. WILL A CERTAIN STEP AFFECT YOUR DEVICE'S PERFORMANCE? IS THERE A PART IN THE OPERATION PROCESS THAT WILL BE CRITICAL TO YOUR APPLICATION?

ADD TO YOUR KNOW-HOW
WATCH THE 1:40 MIN VIDEO AT

SMARTPRODUCTS.COM/CHECK_VALVE_OPERATION.PHP
CHECK/PRESSURE RELIEF VALVES

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 100
STANDARD CARTRIDGE
SMOOTH BODY DESIGN IN A VARIETY OF SIZES

A MODEL #110 - STANDARD CARTRIDGE 1/4"
PICTURED IN PVDF
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

B MODEL #120 - STANDARD CARTRIDGE 5/16"
PICTURED IN ULTEM®
O.D. at 5/16" (7.94mm). 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

C MODEL #130 - STANDARD CARTRIDGE 3/8"
PICTURED IN POLYCARBONATE
O.D. at 3/8" (0.53mm). 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

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

E MODEL #150 - STANDARD CARTRIDGE 5/8"
PICTURED IN Radel®
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, Aflast®, Kalrez®†
Springs: 0.11 - 8 PSI

F MODEL #157 - MANUAL RELIEF BLEED VALVE 5/8"
PICTURED IN GREEN POLYPROPYLENE
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, Aflast®, Kalrez®†
Springs: 0.11 - 8 PSI

G MODEL #160 - STANDARD CARTRIDGE 5/8"
PICTURED IN ABS
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

H MODEL #170 - STANDARD CARTRIDGE 3/4"
PICTURED IN ACRYLIC
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

I MODEL #174 - STANDARD CARTRIDGE 3/4"
PICTURED IN BLACK NYLON
O.D. at 3/4" (19.05mm). Length at 0.835" (21.21mm)
Plastics: Polypropylene, Nylon, PVDF
O-rings: Buna-N, EPDM, Viton®, Silicone
Springs: 0.16 - 3 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 strongly recommends that customers test products for each application-specific use.
NEED A MATERIAL OR OPENING PSI NOT LISTED? JUST ASK OUR SALES DEPARTMENT FOR ASSISTANCE.

ALL MODEL #S ARE CUSTOMIZABLE BY PLASTIC BODY, O-RING, & OPENING PSI.

SPECIALTY SERIES 100
SMALL SIZES, MANY STYLES

CHECK/PRESSURE RELIEF VALVES

A MODEL #101 - MICRO BARBED 1/8”
PICTURED IN POLYCARBONATE
Fits Tubing I.D. at 1/8” (3.175mm), Length at 0.375” (9.53mm). Plastics: Polypropylene, Nylon, Acrylic, Acetal, Polycarbonate, Ultem®, Radel®
O-rings: Buna-N, Silicone
Springs: 0.09 - 20 PSI

B MODEL #111 - BARBED 1/4”
PICTURED IN ABS
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

C MODEL #118 - BARBED 1/4” REVERSE FLOW OF #111
PICTURED IN POLYCARBONATE
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

D MODEL #103 - NPT 1/8”
PICTURED IN BLACK NYLON
NPT Size at 0.438” (11.13mm). Note: fits 7/16” wrench or socket. Length at 0.590” (14.99mm)
Plastics: Polypropylene, Nylon, Polycarbonate, Ultem®, ABS
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone
Springs: 0.09 - 20 PSI

E MODEL #109 - NPT 1/8” REVERSE FLOW OF #103
PICTURED IN ACETAL
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®, ABS
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone
Springs: 0.09 - 20 PSI

F MODEL #122 - SIDE SEAL 5/16”
PICTURED IN ABS
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

G MODEL #132 - SIDE SEAL 3/8”
PICTURED IN PURPLE POLYPROPYLENE
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

H MODEL #152 - SIDE SEAL 5/8”
PICTURED IN POLYCARBONATE
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, Aflast®
Springs: 0.11 - 8 PSI

I MODEL #154 - SIDE SEAL & FLANGED INLET 5/8”
PICTURED IN ACRYLIC
O.D. at 0.625” (15.88mm), Length at 0.455” (11.65mm)
Flange at 0.680” (17.27mm)
Plastics: Polypropylene, Nylon, Acrylic, PVDF, Polycarbonate, Ultem®, ABS
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast®
Springs: 0.11 - 8 PSI

J MODEL #191 - SIDE SEAL & FLANGED OUTLET 5/8”
PICTURED IN ULTEM®
O.D. at 0.625” (15.88mm), Length at 0.455” (11.65mm)
Flange at 0.680” (17.27mm)
Plastics: Polypropylene, PVDF, Polycarbonate
O-rings: Buna-N, EPDM, Viton®, Silicone
Springs: 0.17 - 20 PSI

K MODEL #13A - FLANGED INLET 3/8”
PICTURED IN POLYCARBONATE
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

L MODEL #14C - TAPERED FLANGED INLET 1/2”
PICTURED IN NATURAL POLYPROPYLENE
Body O.D. at 0.50” (12.70mm), Length at 0.69” (17.526mm)
Flange at 0.62” (15.748mm)
Plastics: Polypropylene, Nylon, Acetal
O-rings: Buna-N, EPDM, Viton®, Silicone
Springs: 0.17 - 20 PSI

M MODEL #15B - FLANGED OUTLET 5/8”
PICTURED IN ACETAL
Body O.D. at 0.625” (15.88mm), Length at 0.58” (14.732mm)
Flange at 0.685” (17.939mm)
Plastics: Polypropylene, Nylon, Acetal
O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast®, Kalrez®,
Springs: 0.11 - 8 PSI

† Not available with springs less than 0.5 PSI
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SERIES 200
MALE NPT & METRIC

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

MIX & MATCH MALE NPTS - 1/8" & 1/4": MODEL #214/212
Pictured in Blue ABS
May combine Model #214 and #212 or use the same NPT size on both ends (Example: A)

MIX & MATCH MALE NPTS - 1/4" & 1/8": MODEL #212/214
Pictured in Black Nylon
May combine Model #212 and #214 or use the same NPT size on both ends (Example: B)

MODEL #224 - COMPRESSION FITTING 1/4"
Pictured in White 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 or Model #214 (shown) on inlet or outlet sides only

MODEL #224 - COMPRESSION FITTING 1/4"
Pictured in White 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 only

MODEL #M10/214 - METRIC WITH MALE NPT 1/8"
Pictured in Acetal
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 #M10/212 - METRIC WITH MALE NPT 1/4"
Pictured in PVDF
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

† 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.

SMARTPRODUCTS.COM • 1-800-338-0404
SERIES 300
MODULAR MIX & MATCH END FITTINGS

**MODEL #300 - BARBED 1/16”**
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, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #301 - BARBED 3/32”**
PICTURED IN RED POLYPROPYLENE & PVDF
Tubing I.D. at 3/32” (2.38mm). Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #302 - BARBED 1/8”**
PICTURED IN ULTEM®
Tubing I.D. at 1/8” (3.18mm). Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #303 - BARBED 3/16”**
PICTURED IN RED POLYPROPYLENE, BLACK NYLON, & PVDF
Tubing I.D. at 3/16” (4.76mm). Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS, Radel®. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #304 - BARBED 1/4”**
PICTURED IN RED POLYPROPYLENE, RADEL®, & BLACK NYLON
Tubing I.D. at 1/4” (6.35mm). Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS, Radel®. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #305 - BARBED 5/16”**
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, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #306 - BARBED 3/8”**
PICTURED IN ULTEM®
Tubing I.D. at 3/8” (9.525mm). Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #308 - BARBED 1/2”**
PICTURED IN ABS & BLACK NYLON
Tubing I.D. at 1/2” (12.70mm). Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #312 - NPT 1/4”**
PICTURED IN BLACK NYLON
NPT Size at 1/4”. Plastics: Polypropylene, Nylon, Ultem®, ABS. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #314 - NPT 1/8”**
PICTURED IN ABS
NPT Size at 1/8”. Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS, Radel®. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #315 - FOOT FILTERING**
PICTURED IN PVDF
Plastics: Polypropylene, Nylon, PVDF, Ultem®, ABS O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #330 - MANUAL RELIEF**
PICTURED IN RED POLYPROPYLENE
Unique design 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, Aflast, Kalrez†
Springs: 0.11” - 20 PSI

**MODEL #361 - SMOOTH STEM 3/8”**
PICTURED IN RADEL®
Springs: 0.11” - 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 strongly recommends that customers test products for each application-specific use.
MINIATURE MODULAR SERIES 500
MIX & MATCH END FITTINGS

MODEL #500 - BARBED 1/16”
PICTURED THIS PAGE IN POLYCARBONATE, WHITE POLYPROPYLENE, & ULTEM®
Fits 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”
PICTURED THIS PAGE IN PVDF, PURPLE POLYPROPYLENE, & POLYCARBONATE
Fits 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
PICTURED THIS PAGE IN PURPLE POLYPROPYLENE
Plastics: Polypropylene, PVDF, Polycarbonate, Ultem®. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone. Springs: 0.09 - 20 PSI

MODEL #542 - MALE LUER
PICTURED THIS PAGE IN WHITE POLYPROPYLENE
Plastics: Polypropylene. O-rings: Buna-N, EPDM, Viton®, Silicone, Fluorosilicone
Springs: 0.09 - 20 PSI

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JACO SMART FITTINGS
WITH AN INTERNAL CHECK VALVE
FOR PRECISE FLOW CONTROL

MODEL #J00 MALE CONNECTOR - 3/8" TUBING x 1/4" NPT
MODEL #J01 REDUCING UNION - 3/8" x 1/4" TUBING
MODEL #J02 UNION - 3/8" x 3/8" TUBING
MODEL #J03 FEMALE CONNECTOR - 3/8" TUBING x 1/4" NPT
MODEL #J04 FEMALE CONNECTOR - 3/8" TUBING x 1/2" NPT
MODEL #J05 MALE ELBOW - 3/8" TUBING x 1/4" NPT
MODEL #J06 FEMALE ELBOW - 3/8" TUBING x 1/4" NPT
MODEL #J07 UNION ELBOW - 3/8" TUBING
MODEL #J08 BRANCH TEE - 3/8" TUBING x 1/4" NPT
MODEL #J09 UNION TEE - 5/8" x 5/8" TUBING
MODEL #J10 UNION TEE - 3" x 3/8" TUBING
MODEL #J11 MALE RUN TEE - 3/8" x 3/8" x 1/4" NPT

FITTINGS PICTURED IN WHITE POLYPROPYLENE WITH INTERNAL MODEL #132 CHECK VALVE
IN GREEN POLYPROPYLENE. PVDF (KYNAR) IS ALSO AVAILABLE AS A CUSTOM ORDER.

NOTE: Fittings 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.

SMARTPRODUCTS.COM • 1-800-338-0404
LIQUID PUMPS
SERIES 3000
ENERGY-EFFICIENT, DURABLE, & DEPENDABLE

MAX START UP CONSUMPTION
1500 mA

PUMP DESIGN
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

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**

PORTS
Choice of 1/8” or 1/4” FNPT

VOLTAGE
12-24 VDC

MAX START UP CONSUMPTION
1500 mA

ELECTRICAL CONNECTIONS
Spade type terminals

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**

FEATURES

OPTIONS BY MODEL

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

*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.

All standard materials are FDA compliant

SMARTPRODUCTS.COM • 1-800-338-0404
**SERIES 8000 AIR PUMPS**

**ENERGY-EFFICIENT, DURABLE, & DEPENDABLE**

### FEATURES

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

*Lifetime will vary depending on usage

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SERIES AP MICRO PRESSURE PUMPS
MICRO SIZE WITH MAXIMUM DURABILITY

FEATURES

PUMP DESIGN
Rotary diaphragm, miniature, ideal for battery powered applications

ELECTRICAL CONNECTIONS
Terminals extend from top of pump

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

PISTON
Delrin® 500 AL

CAP
ABS 757 Natural

DIAPHRAGM
Buna 50° A

FUNCTION
Creates pressure for air flow

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OPTIONS BY MODEL

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