
USER MANUAL

MODEL NUMBER:

CT1A5

CT1D5

CT2A5

CT2D5

CT5A5

CT5D5

AND RELATED UNITS

Chemical Transfer Unit

English (Original Instructions)

READ ALL INSTRUCTIONS BEFORE OPERATING EQUIPMENT

WARNING



Read this manual completely and understand the machine before operating or servicing it.

- Read all instructions before installing or operating unit.
- Always wear appropriate personal protective equipment (PPE) when operating or servicing unit.
- Always follow all chemical safety precautions and handling instructions provided by the chemical manufacturer and Safety Data Sheet (SDS).
- If this unit is modified or serviced with parts not listed in this manual, the unit may not operate correctly.
- Never point the discharge hose at yourself, another person, or any object you do not want covered in chemical.
- Do not exceed an incoming air pressure of 100 psi (7 bar).
- Do not exceed a fluid temperature of 100°F (37°C).
- Always flush the unit with fresh water for 5 minutes when switching from an alkaline to an acid or an acid to an alkaline.
- Never use unit with hydrocarbons or flammable products.
- Only use clean and dry air. Air must be filtered and free of moisture or pump life will be diminished. If needed, install an air dryer before unit.
- Do not use an air lubricator before the unit.
- Never use unit if it is damaged or leaking.

PROTECT THE ENVIRONMENT

Please dispose of packaging materials, old machine components, and hazardous fluids in an environmentally safe way according to local waste disposal regulations.



Always remember to recycle.

*Specifications and parts are subject to change without notice.

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| OPTIONS | | | |
|---------|-----------------------|-------------------------------------|---|
| | Pump Seal Material | Operating Type | |
| CT | Santoprene (1) | Manual air button (A) | 5 |
| | Viton (2) | Timer and solenoid valve (D) | |
| | Kalrez (5) | | |

Add bold option codes to item number as shown.
 Examples:

- CT1A5 (Single product transfer unit with Santoprene pump seals and manual air button)
- CT2D5 (Single product transfer unit with Viton pump seals and timer and solenoid valve)
- CT5A5 (Single product transfer unit with Kalrez pump seals and manual air button)

| REQUIREMENTS | | |
|-----------------------------|---|-------------------------|
| | WITH TIMER AND SOLENOID VALVE: | WITH MANUAL AIR BUTTON: |
| Compressed air requirements | Air regulator (R25) factory set at 50 psi (3.4 bar). Operating range is 40 to 80 psi (3 to 5 bar) with 2 CFM (56.6 l/min) | |
| Liquid temperature range | 40-100°F (4.4-37°C) | |
| Electrical requirements | 120 VAC at 60 Hz, 2 amps (GFCI protected outlet) | None |
| Operating voltage | 120 VAC | None |
| Chemical compatibility | Chemical products used with this equipment must be formulated for this type of application and compatible with unit materials. For more information on chemical compatibility, consult the manufacturer or SDS for your product or contact our customer service department. | |

| SPECIFICATIONS | | |
|---------------------------------------|---|-------------------------|
| | WITH TIMER AND SOLENOID VALVE: | WITH MANUAL AIR BUTTON: |
| Power type | Compressed air, electricity | Compressed air |
| Number of products unit can draw from | One product | |
| Suction line length/diameter | 8 ft. (2.4 m) hose with 1/2 in. (12.7 mm) inside diameter | |
| Discharge hose diameter/length | 8 ft. (2.4 m) hose with 1/2 in. (12.7 mm) inside diameter | |
| Discharge wand/tip type | None | |
| Flow rate* | 3.5 gal/min (13.2 l/min) | |
| Pump seals | Santoprene, Viton, or Kalrez | |
| Timer operation type | Single shot | None |

*Flow rates given are based on chemical with viscosity of water and factory air pressure settings.

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Installation Instructions:

For all CT units

1. Remove all components from packaging.
2. Select desired area to mount the control box. Note: The control box should be mounted to a vertical wall.
3. Attach the control box mounting feet to the back of the control box, using the four screws provided in the parts package.
4. Mount the control box to the wall using four of the screws and plastic anchors provided in the parts package. Note: To drill holes for the plastic anchors, use a 5/16 inch drill bit.
5. Drop the suction line into the chemical container.
6. Connect air inlet hose barb (HBSS1438) provided in the parts package to the air inlet valve (BVB14) located on the side of the control box. Then attach a 3/8 inch I.D. air line from your air compressor to the air inlet hose barb, and secure it with the smaller hose clamp provided in the parts package.

For CT units with a timer and solenoid valve

1. Set single-shot timer (TSS11023) to desired run time, as described in the timer adjustment instructions. Make sure run time will not exceed tank capacity.

TIMER ADJUSTMENT INSTRUCTIONS

The diagram shows a control box with a 120 VAC INPUT on the right. Inside the box, there are two terminals labeled 1 and 2. Terminal 1 is connected to the positive (+) terminal of a solenoid valve. Terminal 2 is connected to the negative (-) terminal of the solenoid valve. An INITIATE SWITCH is connected to terminal 1. A LOAD is connected to terminal 1. The diagram also shows a solenoid valve symbol with terminals 1 and 2. A note indicates 'OUT TO SOLENOIDS'.

The TSS11023 is a single-shot timer with selectable run time ranging from 1 to 1023 seconds.

To set the timer:

1. The 10 dip switches control the total active time. To the left is inactive and to the right is active. Combine the numbers next to the active dip switches to achieve the desired time in seconds.

into a GFCI protected 120 VAC power outlet. Turn on power to unit.

3. Turn on air to unit.

Operation Instructions:

1. Follow all instructions from chemical manufacturer. Place the chemical suction line into a container of pre-mixed chemical solution.
2. Drop the discharge line into the empty container.
3. Activate unit - either manually or with timer.
4. For manual units, release the air button when full.
5. Remove discharge line from tank.

Maintenance Instructions:

To keep your chemical transfer unit operating properly, periodically perform the following maintenance procedures:

- Inspect the pump (P56/P56K/P56V) for wear and leaks.
- Inspect all hoses for leaks or excessive wear. Make sure all hose clamps are in good condition and properly secured
- Replace the filter (AFR25) located within the air regulator (R25) as needed. Clean by unthreading the air regulator bowl (ABR25) from the air regulator (R25).
- Check the chemical suction line and strainer for debris and clean as needed.
- Drain your air compressor tank on a regular basis to help extend pump life. An air source with a high moisture content will accelerate pump wear. Note: If your air source has a high moisture content, you may wish to install a water separator (item number WS-20CFM, sold separately) before the unit.

2. With the power switch in the OFF position, plug the unit

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Troubleshooting Instructions:

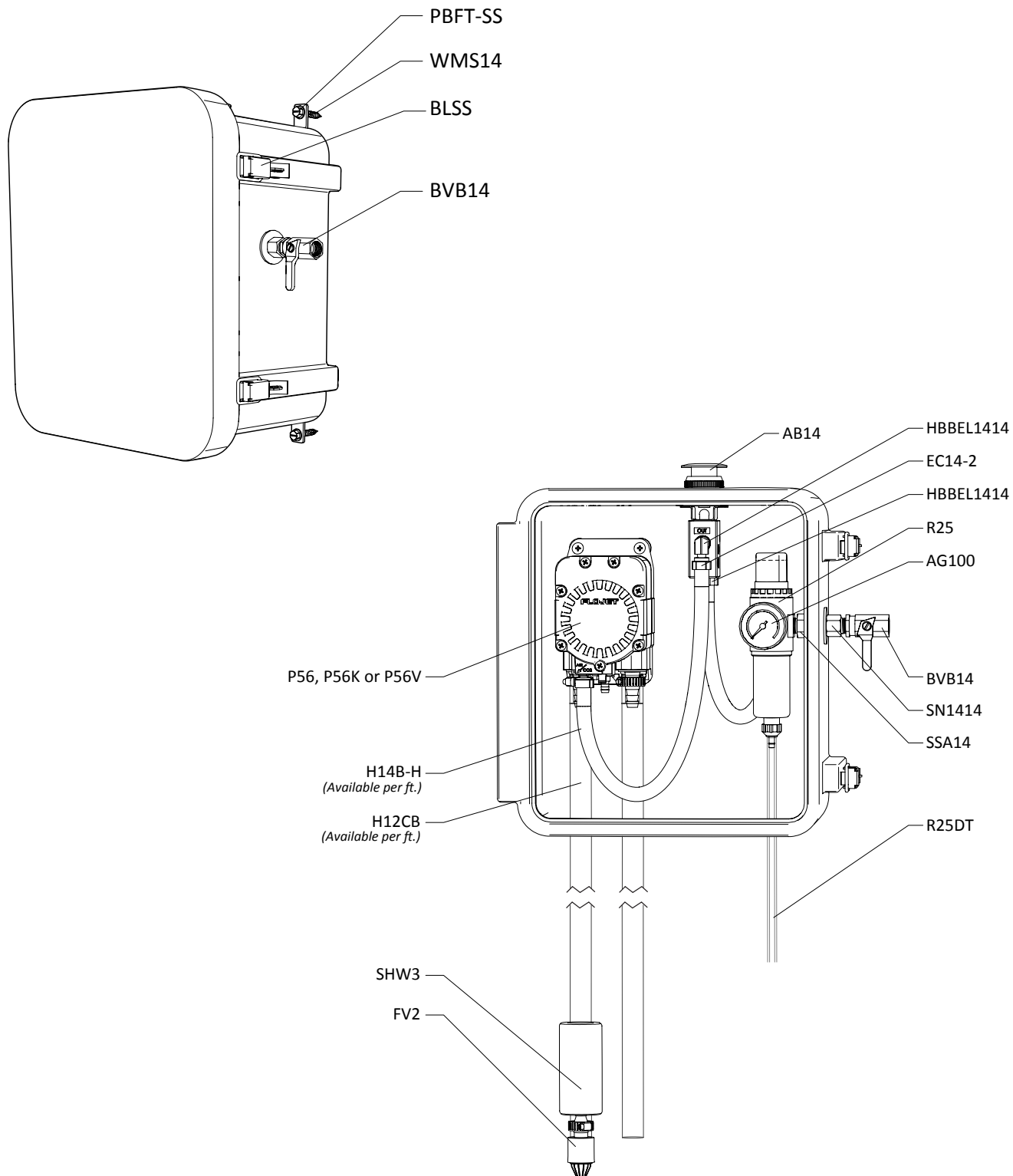
- If air passes through the pump (P56/P56K/P56V) without cycling, the pump needs to be replaced.
- Make sure the manual air button is intact and functioning.
- Verify the timer is properly set.
- If you push the button and it does not turn on, the timer may need to be replaced.
- If the timer is activating and the unit still is not turning on, the solenoid valve may need to be replaced.
- If solution backs up into the air regulator bowl (ABR25), the check valve (CV38) needs to be replaced.
- Check for proper air pressure on the air gauge (AG100). The air regulator (R25) is factory set at 50 psi (3.4 bar).

Operating range is 40 to 80 psi (3 to 5 bar) with 5 to 10 CFM (141.64 to 283.30 l/min).

- If the unit operates at a reduced pressure:
 - Check the air compressor supplying the unit. If the pressure is less than 40 psi, turn the unit off until the compressor can catch up.
 - If the air supply is 50 psi (3.4 bar) or above, check the air gauge (AG100), which should read near 50 psi (3.4 bar). If the air gauge reads more or less than 50 psi (3.4 bar), adjust the pressure by turning the knob on the top of the air regulator (R25).
- Check the chemical suction line and strainer for debris or damage. Clean or replace as needed. To prevent damage to the unit, the strainer (FV2) must always be used.

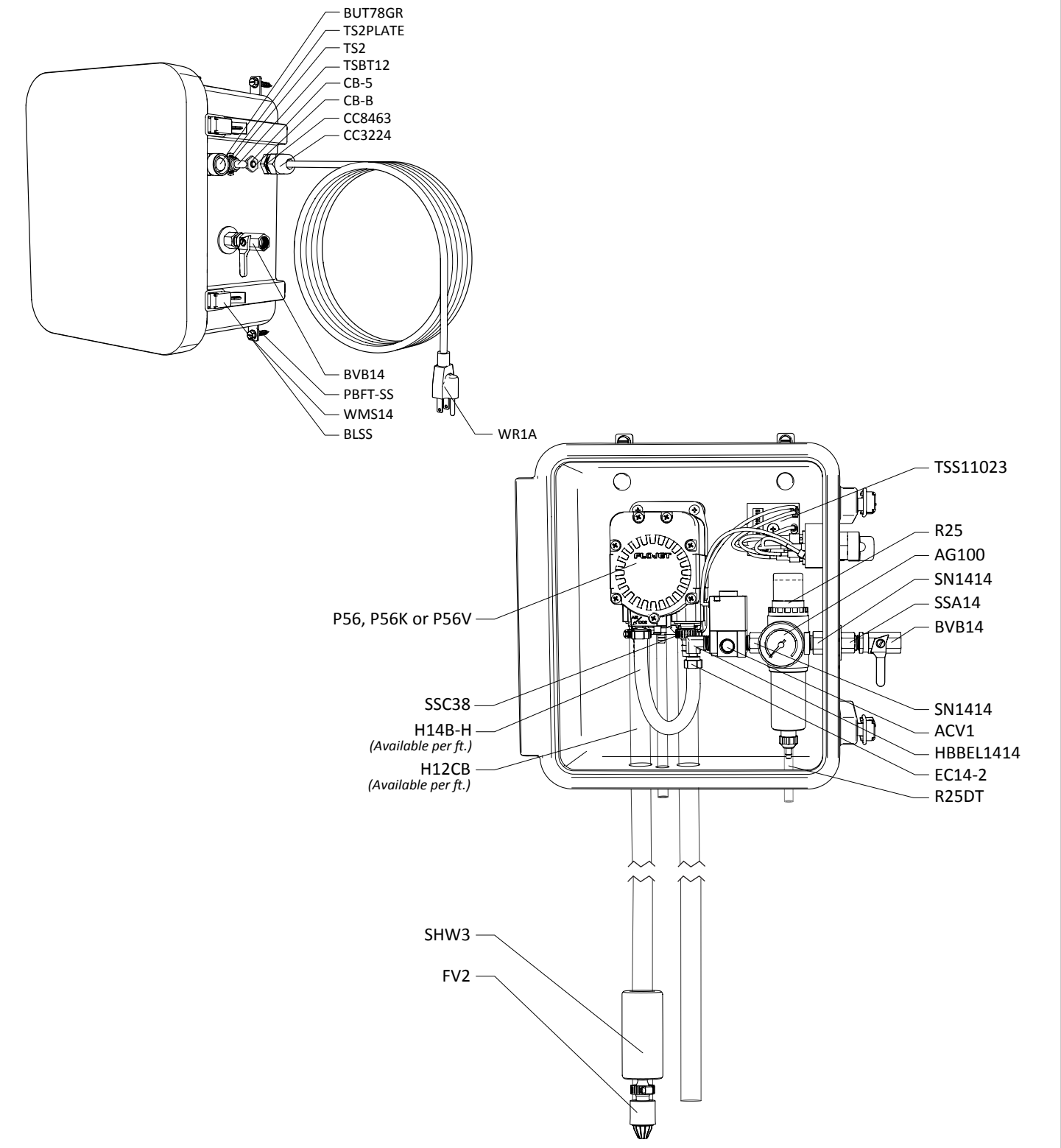
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CONTROL BOX with MANUAL AIR BUTTON



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CONTROL BOX with TIMER AND SOLENOID VALVE



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| ITEM NUMBER | DESCRIPTION |
|-------------|---|
| AB14 | SMC MECH VALVE PUSH BUTTON BLK |
| ACV1 | MAC VALVE 1/4in 110VAC |
| AG100 | 1.5 INCH DRY MODEL 20 DUAL SCALE GAUGE |
| B10321 | 10-32 X 1 PHIL TRUSS MACH SCR 18-8 |
| B103234 | 10-32 X 3/4 PHIL TRUSS MACH SCR 18-8 |
| BH142015 | BUTTON HEAD SOCKET CAP - 1/4 - 20 x 1.5 STAINLESS STEEL |
| BUT78GR | PB OPR NO CB |
| BVB14 | AIR INLET VALVE - VA BRS 025-4F4F-BT, NICKEL |
| CB-5 | 5 AMP CIRCUIT BREAKER |
| CB-B | CLEAR BOOT FOR CIRCUIT BREAKER |
| CC3224 | LTC BLACK 1/2 NPT |
| CC8463 | 1/2in NPT BLACK LOCKNUT |
| EC14-2 | OETIKER CLAMP 13.8 |
| FV2 | FOOT VALVE, VITON, BLUE |
| FWLG14 | .569 ID X 1.28 OD X .08 THICK FLAT WASHER SS 18-8 |
| H12CB | 1/2 IN (ID) CLEARBRAID RF SERIES |
| H14B-H | 1/4 INCH BLUE HOSE - Available per ft. |
| HBBEL1414 | 1/4 MPT X 1/4 HOSE BARB BRASS 90 DEG |
| HBSS1438 | STAINLESS HOSE BARB 1/4 MPT X 3/8 BARB |
| HBSEL1814 | 304 STAINLESS ELBOW 1/8 INCH NPT X 1/4 INCH HOSE BARB |
| P14 | COUNTERSUNK PLUG-HEXAGON 1/4 |
| P18 | PLUG 1/8 MPT HEX HEAD 304 SS |
| P56 | PUMP WITH SANTOPRENE SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND EXHAUST BARB |
| P56K | 5700 PUMP WITH KALREZ SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND AIR PORT |
| P56V | 5700 PUMP WITH VITON SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND AIR PORT |
| 20756103B | Polypro G57 Air Port x HB Straight, w/ Viton o-ring |

| | |
|-------------|--|
| HB14P | 1/4in BRASS HB AIR FITTING /G57/P56 |
| HB5638 | HOSE BARB FOR P56 PUMP |
| HB5638K | HOSE BARB FOR P56K PUMP |
| HB5638V | HOSE BARB FOR P56V PUMP |
| PB1211-A | POLY BOX ASSEMBLY 12 X 11 X 6 WITH GASKET-LATCH-MOUNTING HARDWARE |
| BKSS | BOX KEEPER STAINLESS STEEL |
| BLSS | Stainless Steel Latch |
| PB1211-GSKT | 3/32 INCH THICK GSKT WITH PSA |
| PB1211 | GRAY POLY BOX 12 X 11 X 6 |
| PBFT-SS | POLY BOX SS FOOT |
| PL1211 | 12X11 INCH POLYETHYLENE LID |
| R25 | AIR REGULATOR - 1/4ft TWO PORT 1/8ft TWO PORT - INCLUDES FILTER AND BOWL |
| R25DT | 3/16 X 5/16 CLEAR PVC TUBING - Available per ft. |
| RIVSS-18-4 | 1/8 Stainless Rivet/Stainless Mandrel - Length .400 - Grip Range (.188 - .250) |
| S142058-VS | 1/4-20 X 5/8 PHIL TRUSS MACHINE SCREW 18-8 W/#516 VIBRASEAL ORANGE PATCH |
| SHW3 | 3in LONG COATED WEIGHT |
| SN1414 | STAINLESS 1/4MPT X 1/4MPT NIPPLE |
| SSA14 | SS304 MALE/FEMALE ADAPTOR 1/4 NPT X 1/4 NPT |
| SSC12 | WORM GEAR CLAMP, S/S (.31-.91) |
| SSC38 | WORM GEAR CLAMP, S/S (.25-.63) |
| TSS11023 | SINGLE SHOT TIMER 1-1023S 19-144VAC |
| WC14FRK | 14-16 - INSULATED NARROW FORK TERM. CONNECTOR |
| WCB14F | 14-16 - 1/4 FEM INSULATED CONNECTOR |
| WCB14FY | 10-12 - 1/4in FEMALE INSULATED CONNECTOR |
| WMS14 | 14 X 1 1/4 HEX W/H SMS SLOTT, S/S |
| WMS14A | 5/16 X 1 1/2 STRAIGHT PLASTIC ANCHOR |
| WR1A | 18/3 SJOOW 90 BLACK N.A. W/ 5-15P & 7in ROJ |