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# **USER MANUAL**

**MODEL NUMBER:**

**CT1A5**

**CT1D5**

**CT2A5**

**CT2D5**

**CT5A5**

**CT5D5**

**AND RELATED UNITS**

**Chemical Transfer Unit**

**English (Original Instructions)**

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## 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 (6.9 bar).
- Do not exceed a fluid temperature of 100°F (37.8°C).
- Always flush the unit with fresh water thoroughly 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 <b>(1)</b>	Manual air button <b>(A)</b>	5
	Viton <b>(2)</b>	Timer and solenoid valve <b>(D)</b>	
	Kalrez <b>(5)</b>		

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 factory set at 50 psi (3.4 bar). Operating range is 40 to 80 psi (2.8 to 5.5 bar) with 2 CFM (56.6 l/min)	
Liquid temperature range	40-100°F (4.4-37.8°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  $\frac{3}{16}$  inch drill bit.
5. Drop the suction line into the chemical container.
6. Connect air inlet hose barb provided in the parts package to the air inlet valve located on the side of the control box. Then attach a  $\frac{3}{8}$  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 timer 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.

### Operation Instructions:

1. Following 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 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 ocated within the air regulator as needed. Clean by unthreading the air regulator bowl from the air regulator.
- 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 (sold separately) before the unit.

2. With the power switch in the OFF position, plug the unit into a GFCI protected 120 VAC power outlet. Turn on power to unit.
3. Turn on air to unit.

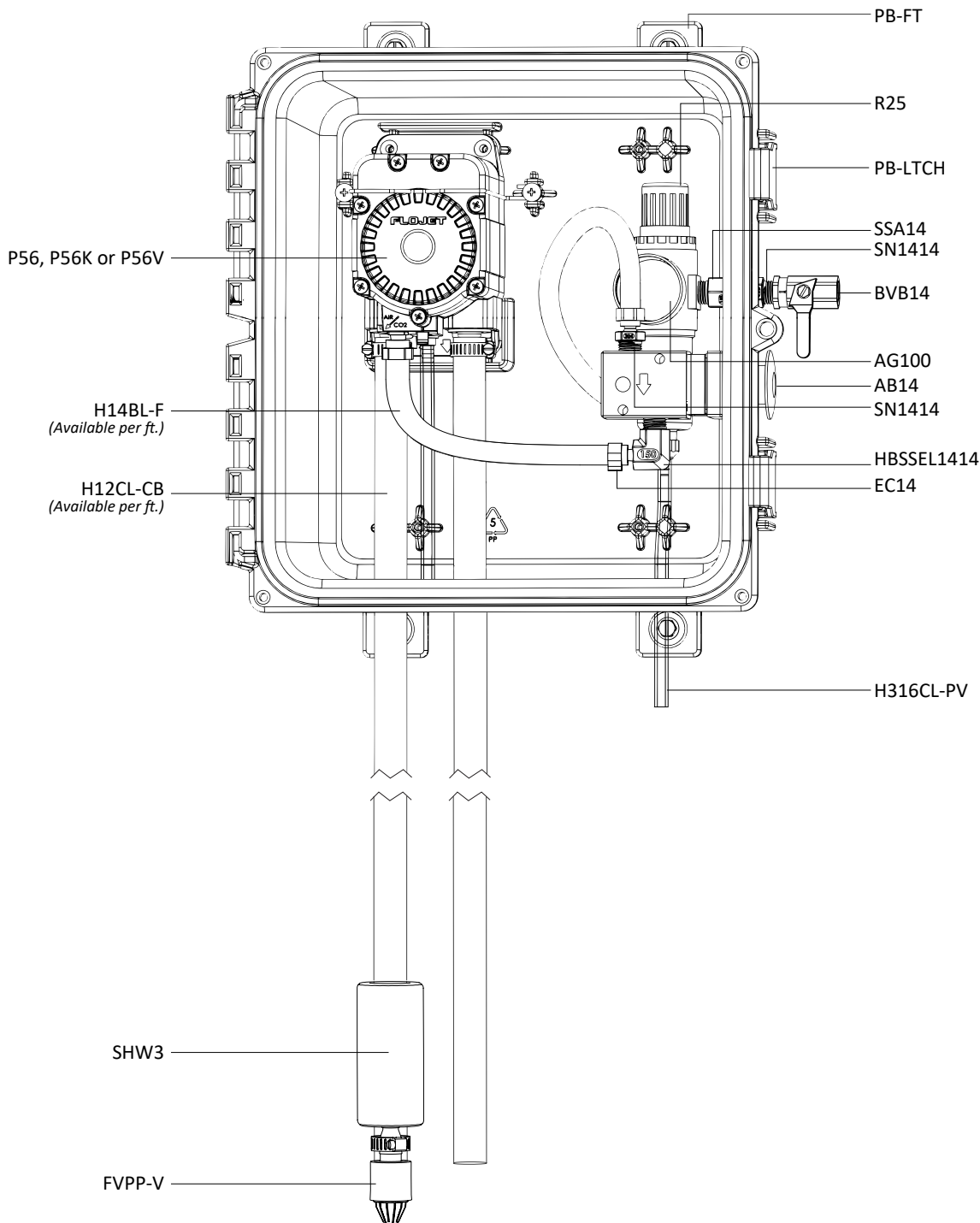
## READ ALL INSTRUCTIONS BEFORE OPERATING EQUIPMENT

### Troubleshooting Instructions:

- If air passes through the pump 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, the check valve needs to be replaced.
- Check for proper air pressure on the air gauge. The air regulator is factory set at 50 psi (3.4 bar). Operating range is 40 to 80 psi (2.8 to 5.5 bar) with 5 to 10 CFM (141.6 to 283.2 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 (2.8 bar), 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, 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.
- Check the chemical suction line and strainer for debris or damage. Clean or replace as needed. To prevent damage to the unit, the strainer must always be used.

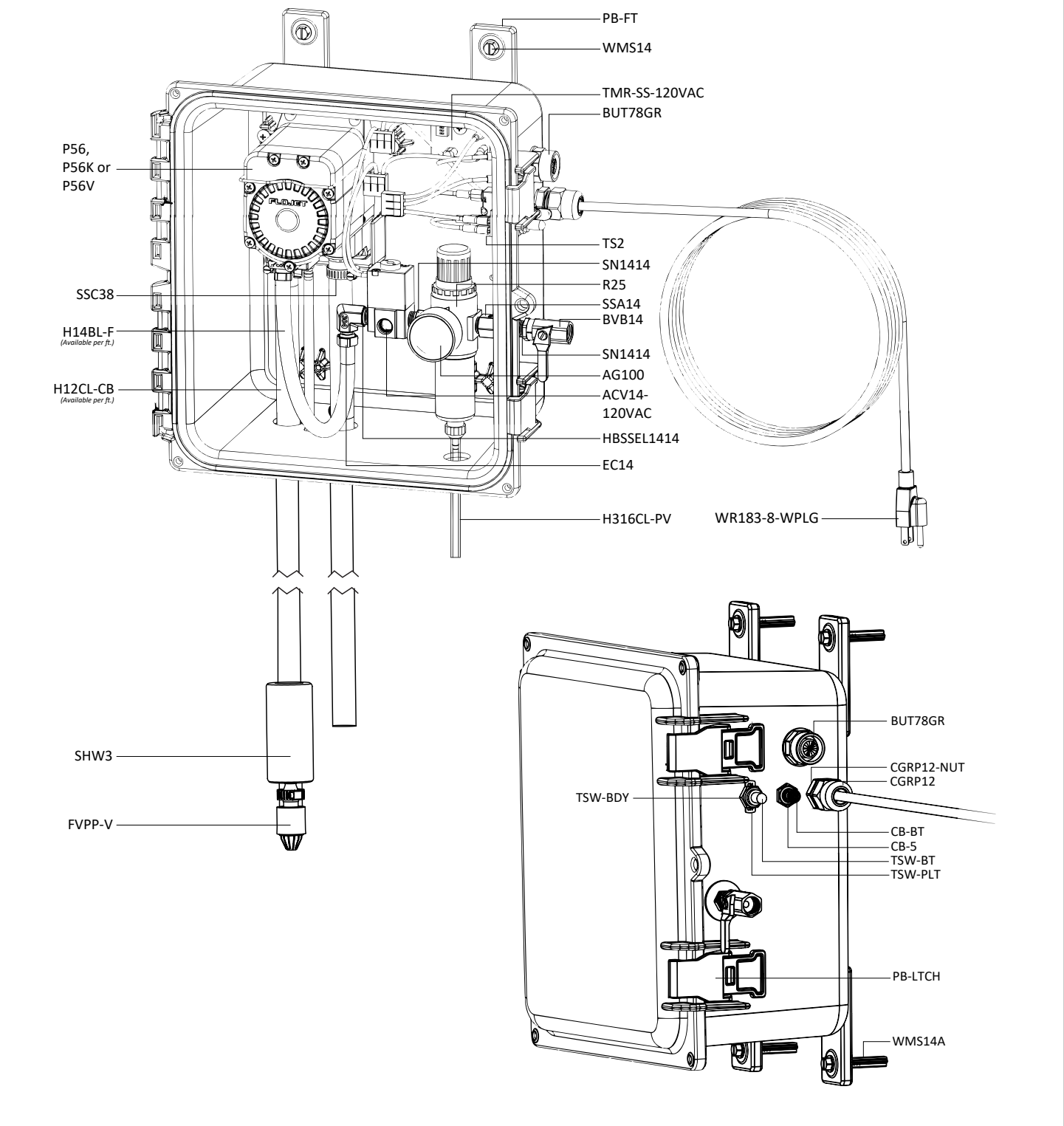
# READ ALL INSTRUCTIONS BEFORE OPERATING EQUIPMENT

## CONTROL BOX with MANUAL AIR BUTTON



# READ ALL INSTRUCTIONS BEFORE OPERATING EQUIPMENT

## CONTROL BOX with TIMER AND SOLENOID VALVE



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ITEM NUMBER	DESCRIPTION
AB14	SMC MECH AIR VALVE PUSH BUTTON BLK
ACV14-120VAC	AIR CONTROL VALVE - MAC - 1/4IN FPT IN - 2X 1/4IN FPT OUT - ALUMINUM BODY - 120VAC SOLENOID - NORMALLY CLOSED - 18IN 18AWG FLYING LEADS
AG100	AIR GAUGE - 1/8IN NPT - 0-100 PSI MARKINGS - DRY MODEL
B10321	BOLT - 10-32 X 1IN - STAINLESS STEEL - TRUSS HEAD PHILLIPS
B142058-VS	BOLT - 1/4-20 X 5/8IN - STAINLESS STEEL - TRUSS HEAD PHILLIPS - VIBRASEAL
B103234	BOLT - 10-32 X 3/4IN - STAINLESS STEEL - TRUSS HEAD PHILLIPS
BRKT-P56	PUMP BRACKET- STAINLESS STEEL
BUT78GR	PUSH BUTTON - FLUSH GREEN CAP - NORMALLY OPEN
BVB14	BALL VALVE - BRASS - NICKEL PLATED - AIR INLET VALVE - 1/4IN FPT X 1/4IN FPT
CB-5	CIRCUIT BREAKER ASSEMBLY - 5 AMP - INCLUDES CLEAR BOOT
CB-BT	CLEAR BOOT FOR CIRCUIT BREAKER
CGRP12	CORD GRIP - 1/2IN MPT - BLACK NYLON - CORD RANGE 0.17IN TO 0.45IN - WATER RESISTANT - FOR 7/8IN HOLE - NO NUT INCLUDED
CGRP12-NUT	NUT - 1/2NPT - BLACK NYLON
EC14	EAR CLAMP - OETIKER - STAINLESS STEEL - FOR 1/4IN HOSE
FVPP-V	FOOT VALVE - POLYPROPYLENE BODY - NOT CUT TO SIZE - VITON CHECK VALVE - BLACK
FW14NPT	FLAT WASHER FOR 1/4IN NPT - STAINLESS - 0.57IN ID X 1.28IN OD X 0.08IN THK
H12CL-CB	1/2IN ID CLEARBRAID HOSE - PVC - AVAILABLE PER FT
H14BL-F	1/4IN ID BLUE HOSE-HYBRID TPE-AVAILABLE PER FT
H316CL-PV	3/16IN ID 5/16IN OD CLEAR HOSE - PVC - AVAILABLE PER FT
HBSS1414	HOSE BARB - STAINLESS STEEL - 1/4IN MPT X 1/4IN BARB
HBSSSEL1414	HOSE BARB - STAINLESS STEEL - ELBOW - 1/4IN MPT X 1/4IN BARB
HBSS1438	HOSE BARB - STAINLESS STEEL - 1/4IN MPT X 3/8IN BARB
HBSSSEL1814	HOSE BARB - STAINLESS STEEL - ELBOW - 1/8IN MPT X 1/4IN BARB
P14-VS	PLUG - 1/4IN MPT WITH VIBRASEAL - COUNTERSUNK HEXAGON
P18	PLUG - 1/8IN MPT - 304 STAINLESS STEEL - SQUARE HEAD
P56	PUMP WITH SANTOPRENE SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND EXHAUST BARB
P56V	PUMP WITH VITON SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND EXHAUST BARB
P56K	PUMP WITH KALREZ SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND EXHAUST BARB
HB14P	1/4IN HOSE BARB-BRASS-FOR G57/P56 AIR FITTING WITH O-RING

HB5638	HOSE BARB FOR P56 PUMP
HB5638K	HOSE BARB FOR P56K PUMP
HB5638V	HOSE BARB FOR P56V PUMP
PBA-12117	POLY BOX ASSEMBLY - 12IN X 11IN X 7IN - GRAY POLYPROPYLENE - INCLUDES BRAND LABEL AND MOUNTING HARDWARE
PB12117-BOX	POLY BOX - GRAY POLYPROPYLENE - FOR PBA-12117
PB12117-LID	POLY BOX LID - GRAY POLYPROPYLENE - FOR PBA-12117 - INCLUDES PB-GSKT ROPE SEAL AND BRAND LABEL
PB-FT	POLY BOX FOOT - GRAY POLYPROPYLENE - FOR PBA-12117 AND PBA-16138
PB-LTCH	POLY BOX LATCH - GRAY POLYPROPYLENE - TWO PIECES ASSEMBLED - FOR PBA-12117 AND PBA-16138
PB-PIN	STAINLESS STEEL HINGE PIN FOR PB16138 AND PB12117
R25	REGULATOR - AIR - 2X 1/4IN FPT AND 2X 1/8IN FPT PORTS WITH BOWL AND FILTER - NO GAUGE
S1012-HL	SCREW - #10 X 1/2IN - STAINLESS STEEL - ROUND HEAD PHILLIPS - HILO THREAD
S1034-FH-HL	SCREW - #10 X 3/4IN - STAINLESS STEEL - FLAT HEAD PHILLIPS - HILO THREAD
SHW3	SUCTION HOSE WEIGHT - 15/16IN ID X 1 1/2IN OD X 3 1/4IN LONG - PVC COATED STAINLESS
SN1414	STAINLESS HEX NIPPLE 1/4 MPT X 1/4 MPT
SSA14	STAINLESS ADAPTOR 1/4 MPT X 1/4 FPT
SSC12	SCREW BAND CLAMP - STAINLESS STEEL - FOR 1/2IN HOSE
SSC38	SCREW BAND CLAMP - STAINLESS STEEL - FOR 3/8 IN HOSE
TSW-BDY	TOGGLE SWITCH - BODY - SINGLE POLE SINGLE THROW - NICKEL-PLATED BRASS - 1/4IN SPADE TERMINALS - 1/2IN MOUNTING HOLE - 15/32-32 KEYPED THREADED BUSHING
TSW-PLT	TOGGLE SWITCH - ON/OFF PLATE - NICKEL-PLATED STEEL - MOUNTING HOLE FOR 15/32 KEYPED BUSHING
TSW-BT	TOGGLE SWITCH - MOUNTING BOOT - BLACK SILICONE RUBBER - 15/32-32 INTEGRATED NUT
TMR-SS-120VAC	TIMER - SINGLE SHOT - 1SEC TO 1023SEC ADJUSTABLE DIGI-SET - 24VAC TO 120VAC - 10A MAX - 1/4IN SPADE TERMINALS
WC1416-FRK6	WIRE CONNECTOR - FOR 14 TO 16 GAUGE WIRE - #6 NARROW FORK TERMINAL - BLUE PVC INSULATED
WC1416-FSPD14	WIRE CONNECTOR - FOR 14 TO 16 GAUGE WIRE - 1/4IN FEMALE SPADE - BLUE PVC INSULATED
WC1012-FSPD14	WIRE CONNECTOR - FOR 10 TO 12 GAUGE WIRE - 1/4IN FEMALE SPADE - YELLOW NYLON INSULATED
WMS14	WALL MOUNT SCREW - #14 X 1 1/4IN - STAINLESS STEEL - HEX HEAD SLOTTED
WMS14A	WALL MOUNT SCREW ANCHOR -#14 X 1 1/4IN - PLASTIC - 5/16IN DRILL SIZE
WR183-8-WPLG	WIRE CORD WITH US STANDARD UNPOLARIZED GROUNDED PLUG - 18AWG 3 CONDUCTOR - 8FT LONG - BLACK RUBBER JACKET - EPDM INSULATION - TYPE SJ00W - 10A RATING