

Metering Filling Station

Model: MFS

Installation, Operation, Maintenance, Parts & Service

This manual is updated as new information and models are released. Visit our website for the latest manual.



For your future reference.

Model # _____

Serial # _____

Model # & Serial #.
(Open front panel to view rating label.)



Read the manual thoroughly.
Improper installation, operation or maintenance can cause property damage, injury or death.

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STATEMENT OF RESPONSIBILITIES / DÉCLARATION DES RESPONSABILITÉS / DECLARACIÓN DE RESPONSABILIDADES

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Qualified Cleveland Range, LLC Authorized Service Representatives are obligated to follow industry standard safety procedures, including, but not limited to, OSHA regulations, and disconnect / lock out / tag out procedures for all utilities including steam, and disconnect / lock out / tag out procedures for gas, electric, and steam powered equipment and / or appliances.

All utilities (gas, electric, water and steam) should be turned OFF to the equipment and locked out of operation according to OSHA approved practices during any servicing of Cleveland Range equipment

Qualified Cleveland Range, LLC Authorized Service Representatives are obligated to maintain up-to-date knowledge, skills, materials and equipment.

Ce document est destiné à l'usage des Représentants de Service qualifiés et autorisés de Cleveland Range, LLC qui possèdent l'expérience et la formation ainsi que la bonne connaissance des mesures de sécurité et du matériel qu'ils entretiennent.

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Au cours de tout entretien d'un appareil Cleveland Range, tous les services publics (gaz, électricité, eau et vapeur) doivent être FERMÉS au niveau de l'appareil et le dispositif de fonctionnement doit être verrouillé suivant les pratiques approuvées de l'OSHA.

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Este documento está destinado para el uso de los Representantes de Servicio calificados y autorizados de Cleveland Range, LLC quienes cuentan con la experiencia y la capacitación así como el buen conocimiento de las medidas de seguridad y de los equipos que mantienen.

Cleveland Range, LLC, declina toda responsabilidad en caso de cualquier fallecimiento, lesiones, daños al equipo o daños a la propiedad resultantes de la utilización, del uso indebido o de la falta de utilización de la información provista en este documento.

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Los Representantes de Servicio calificados y autorizados de Cleveland Range, LLC tienen la obligación de seguir los procedimientos estándar de seguridad de la industria; los cuales incluyen pero no se limitan a los reglamentos de la OSHA (La Administración de la Seguridad y Salud Ocupacionales), los procedimientos de desconexión, cierre y etiquetado relativos a todos los servicios públicos incluyendo el suministro de vapor y los procedimientos de desconexión, cierre y etiquetado para los equipos y/o aparatos que funcionan a base de gas, electricidad o vapor.

Cuando se esté dando servicio o mantenimiento a un aparato de Cleveland Range, todos los servicios públicos (gas, electricidad, agua y vapor) deben estar APAGADOS para el equipo en cuestión y se debe seguir el procedimiento de cierre de operaciones de acuerdo con las prácticas aprobadas por la OSHA.

Los Representantes de Servicio calificados y autorizados de Cleveland Range, LLC tienen la obligación de actualizar constantemente sus conocimientos, destrezas, materiales y equipamiento.

FOR YOUR SAFETY / POUR VOTRE SÉCURITÉ / PARA SU SEGURIDAD

FOR YOUR SAFETY

Do not store or use gasoline or any other flammable liquids and vapours in the vicinity of this or any other appliance.

POUR VOTRE SÉCURITÉ

Ne pas entreposer ou utiliser d'essence ou d'autres liquides ou vapeurs inflammables à proximité de cet appareil ou de tout autre appareil.

PARA SU SEGURIDAD

No guarde ni use gasolina o cualesquiera otros líquidos o vapores inflamables en las cercanías de éste o cualquier otro aparato.

WARNING: Improper installation, operation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation and operating instructions thoroughly before installing, operating or servicing this equipment.

AVERTISSEMENT : Toute mauvaise pratique en matière d'installation, de fonctionnement, de réglage, de modification, d'entretien ou de maintenance peut causer des dommages matériels, des blessures ou la mort. Lisez la totalité des instructions d'installation et d'utilisation avant d'installer, d'utiliser ou d'entretenir cet équipement.

ADVERTENCIA: La indebida instalación, operación, ajuste, modificación, servicio o mantenimiento puede ocasionar daños a la propiedad, lesiones o muerte. Lea detenidamente las instrucciones de instalación y de operación antes de instalar, poner a funcionar o dar servicio a este equipo.

This appliance is not to be used by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

This appliance is not for use by children and they must be supervised not to play with it.

Retain this manual for your reference.

Cet appareil ne doit pas être utilisé par des personnes dont les capacités physiques, sensorielles ou mentales sont réduites, ou des personnes dénuées d'expérience ou de connaissance, sauf si elles ont pu bénéficier, par l'intermédiaire d'une personne responsable de leur sécurité, d'une surveillance ou d'instructions préalables concernant l'utilisation de l'appareil.

Affichez à un endroit bien visible les instructions à suivre dans le cas où l'utilisateur sent une odeur de gaz. Ces informations seront obtenues auprès de votre fournisseur de gaz local.

Conservez ce manuel pour votre référence.

Este aparato no debe ser utilizado por personas con capacidades físicas, sensoriales o mentales reducidas, o que no tengan la experiencia y los conocimientos adecuados, a menos que estas personas hayan recibido supervisión e instrucciones en cuanto al uso del aparato por la persona responsable de la seguridad de ellas.

Este aparato no debe ser usado por los niños y ellos deben ser supervisados para que no jueguen con el aparato.

Guarde este manual para su referencia.



WARNING / AVERTISSEMENT / ADVERTENCIA



Improper installation, operation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation and operating instructions thoroughly before installing, operating or servicing this equipment. / Toute mauvaise pratique en matière d'installation, de fonctionnement, de réglage, de

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Surfaces and product may be hot! Wear protective equipment. / Les surfaces et le produit peuvent être chauds! Portez un équipement de protection. / ¡Las superficies y el producto pueden estar calientes! Utilice equipo protector.



Use wheel locks. / Utiliser des verrous de roue. / Utilizar bloqueos de la rueda.



Stand clear of product discharge path when discharging hot product. / Écartez-vous du chemin de décharge d'un produit chaud. / Permanezca alejado de la ruta de descarga del producto al vaciar producto caliente.



Bag clippers come in various models. Follow all safety instructions in their specific manual. / Il existe une variété de modèles de pinces de sacs. Suivez toutes les consignes de sécurité figurant dans leur propre manuel. / La engrapadoras de bolsas vienen en varios modelos. Sig todas las instrucciones de seguridad en s propio manual.



Keep hands away from moving parts and pinch points. / Gardez les mains loin des pièces mobiles et des points de pincement. / Mantenga las manos lejos de piezas movibles y puntos de presión muy localizada.



Hot product and surfaces. / Produit et surfaces chaudes. / Producto y superficies calientes.

Do not touch. / Ne pas toucher. / No la toque



Have a qualified service technician maintain your equipment. / Demandez à un technicien en entretien et en réparation qualifié d'effectuer l'entretien de votre équipement. / Haga que un técnico de servicio calificado mantenga su equipo



Floor may become slippery from product spillage. / Déversement de produit peut causer de plancher à être glissant. / Derrame de producto puede causar piso a ser resbaladizo.



Inspect unit daily for proper operation. / Inspectez l'unité tous les jours pour son bon fonctionnement. / Inspeccione diariamente el funcionamiento correcto de la unidad.



Remove air pressure prior to servicing or cleaning. / Dépressurisez avant tout entretien. / Despresurizar antes de darle servicio.



Do not climb, sit or stand on equipment. / Il ne faut pas monter, s'asseoir ni se tenir debout sur l'équipement. / No subirse, ni sentarse ni pararse sobre el equipo.



Do not remove guards or operate without them. / Ne pas supprimer les gardes ou fonctionner sans eux. / No retire los guardias ni funcionar sin ellos.

PREVENTATIVE MAINTENANCE

FOR MAINTENANCE AND REPAIRS CONTACT YOUR AUTHORIZED MANITOWOC SERVICE AGENCY AND HAVE A QUALIFIED SERVICE TECHNICIAN MAINTAIN YOUR EQUIPMENT.



DAILY PRE-STARTUP INSPECTION



1. Unit has been assembled properly and all hose and pipe fittings are tight.
2. Check air pressure.
3. Test single stroke operation.
4. Test continuous operation.

WEEKLY

1. 95 to 100 psi. air pressure.
2. Check air filter collector.
3. Check all fittings for leaks - oil level.
4. Lubricator should be adjusted to disperse 1 drop of oil per 14-18 cycles. (non detergent oil).
5. The flapper valve assembly must be removed and inspected for signs of wear and proper adjustment.
6. Check for loose fasteners, switches, piston head, etc.
7. Gasket and O-ring wear.

INSTALLATION

RECEIVING INSPECTION

Before unpacking visually inspect the unit for evidence of damage during shipping.

If damage is noticed, do not unpack the unit, follow shipping damage instructions

SHIPPING DAMAGE INSTRUCTIONS

If shipping damage to the unit is discovered or suspected, observe the following guidelines in preparing a shipping damage claim.

1. As soon as damage is discovered or suspected, notify the carrier that delivered the shipment.
2. Write down a description of the damage or the reason for suspecting damage as soon as it is discovered. This will help in filling out the claim forms later.
3. Arrange for the carrier's representative to examine the damage.
4. Fill out all carrier claims forms and have the examining carrier sign and date each form.

UNCRATING

Caution:

Straps under tension and will snap when cut.

Carton may contain staples and Skid contains Nails.

Use proper safety equipment and precautions.

Unit is heavy use adequate help or lifting equipment as needed.

1. Carefully cut any straps from container.
2. Lift off carton.
3. Inspect for hidden damage.
If found refer to "SHIPPING DAMAGE INSTRUCTIONS".
4. Cut strap holding unit.
5. Remove manual. Write down the model# and serial# of the unit onto the front of this manual.
6. Lift unit off skid.
7. Remove and store accessories in a secure area.
8. Discard packaging material according to local and or state requirements.

ASSEMBLY

The Metering Filling Station is a mobile unit that requires no assembly to complete unless a clipper has been shipped with the unit. It does however ship with a number of loose items that are required for its use. These items should be stored in a convenient location.

CLIPPER

If a clipper is supplied with the unit, it must be mounted. Remove it from the box and connect it to the mounting bar using part #FA11509-1 bolt (supplied). Connect one end of the short air hose (supplied) to the clipper and the other end to the male quick connect (24) on the left end of the MFS marked as "Air to Clipper".

INSTALLATION REQUIREMENTS

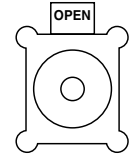
Compressed Air

This unit requires a constant air supply at 25 c.f.m. (cubic feet per minute) at 90 to 100 p.s.i. (pounds per square inch).

The Metering Filling Station is equipped with its' own air oiler system, therefore, no oil should be added to the supply air. We recommend the compressed air system be equipped with a dryer, filter, and automatic water dump on the air compressor receiver tank. If the distance between the tank and the unit is less than 100 feet then a minimum line size of 3/4" is required. A distance of 100 to 300 feet requires a minimum 1" line.

If you do not have a Cleveland kettle with air connection built-in then you must attach the female quick connect (supplied) to your air supply.

Connect one end of air line (supplied) to the metering filling station and the other end to the kettle air outlet fitting and if there is no air to unit check if the kettle's Air Quick Connect is pushed upward to the "OPEN" position.



Electrical

No electrical connection is required.

INSTALLATION CHECKS

AIR PRESSURE

1. Connect supply air to metering filling station (23).
2. Open front Doors on metering filling station.
3. Set Stroke Selection Switch on Control Panel (1) for "CONSTANT PUMPING".
4. Hold Trigger Lever (10) and read Pressure Gauge (19) as pump is operating. Pressure should not drop less than 90 psi or exceed 110 psi.
5. Adjust (18) as required.

SINGLE STROKE

Note: Use 3" gaskets in all hex nut couplings on food hose.

⇒ First, hand-tighten.

⇒ Then, snug with wrench.

1. Using 3" gasket, connect the 3" dia. Food Product Hose (12) to metering filling station and kettle.
2. Add water to kettle and open kettle's product discharge valve.
3. Open front Doors of metering filling station.
4. Set Stroke Selection Switch on Control Panel (1) for "SINGLE STROKE".
5. Place bag over Discharge Nozzle (11).
6. Pull and hold Trigger Lever (10).
7. Product piston should go all the way either left or right, then return and stop.
8. Release Trigger Lever (10).
9. Repeat test until product starts to discharge into bag.

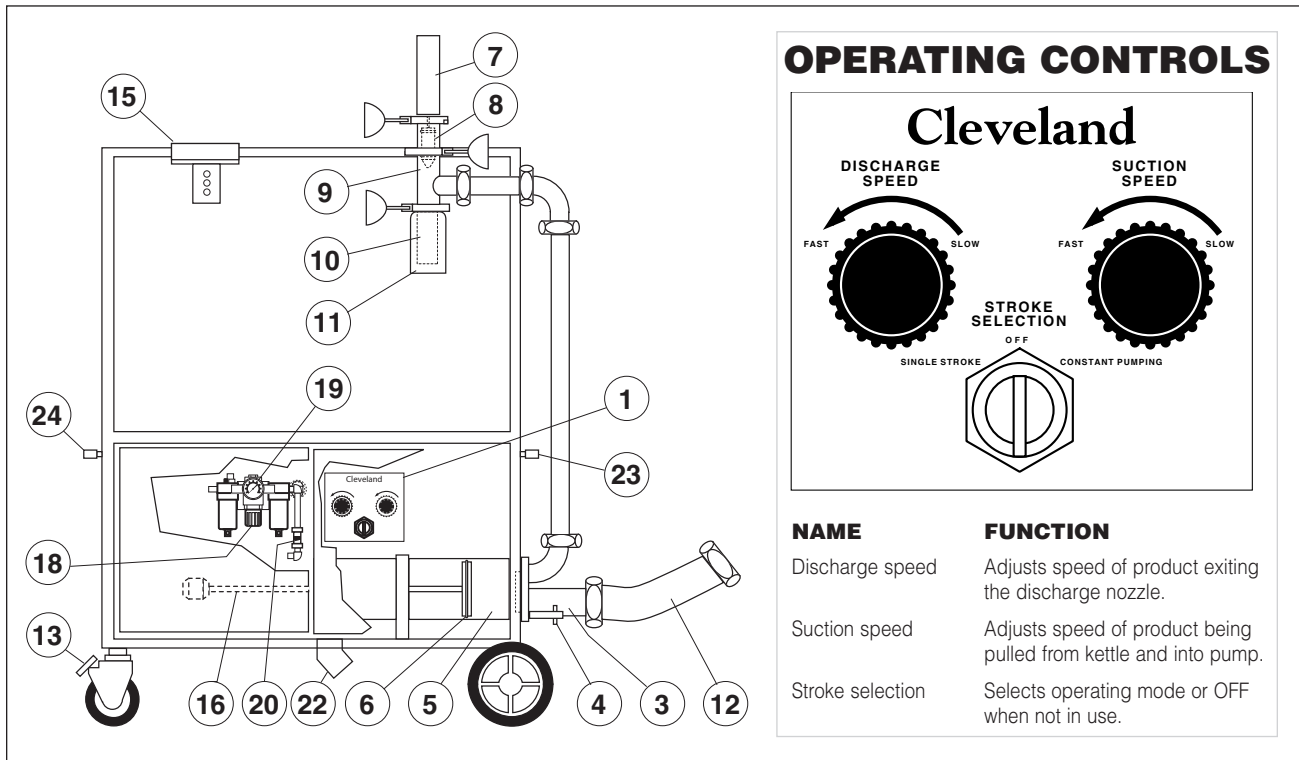


CLIPPER

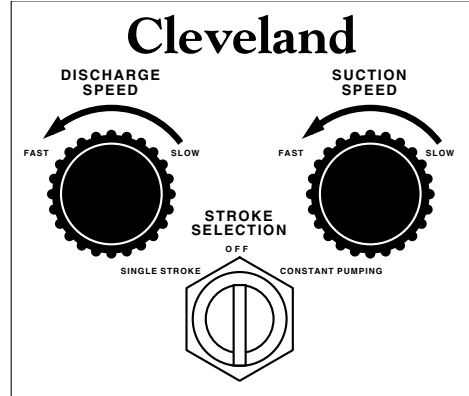
Refer to clipper operating instruction manual for safety and operating procedures.



OPERATING INSTRUCTIONS



OPERATING CONTROLS



NAME	FUNCTION
Discharge speed	Adjusts speed of product exiting the discharge nozzle.
Suction speed	Adjusts speed of product being pulled from kettle and into pump.
Stroke selection	Selects operating mode or OFF when not in use.

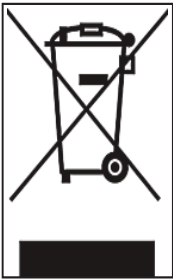
ITEM #	DESCRIPTION	FUNCTION
1.	Control Panel	Includes: A/ speed adjusters for suction and discharge. B/ stroke selection switch.
3.	Piston Head	
4.	Large Lug Nuts	Holds product head to product cylinder.
5.	Product Cylinder	Cylinder product is drawn into and discharged from.
6.	Product Piston	Moves product within the cylinder.
7.	Product Discharge Valve	Air cylinder that opens and closes discharge opening by moving plunger.
8.	Plunger	Opens and closes product discharge opening.
9.	Discharge Valve Body	
10.	Trigger Lever	Activates pumping action.
11.	Discharge Nozzle	Directs the flow of discharge product.
12.	3" dia. Food Product Hose	3" dia. hose to connect Metering Filling Station hose to kettle.
13.	Caster with Brake	Locks pump in position.
15.	Clipper Bracket	Mounting bracket for optional clipper.
16.	Adjustment Rod	Used for setting desired pumping volume.
18.	Pressure Regulator Dial	Used to regulate air pressure.
19.	Pressure Gauge	Shows operating pressure.
20.	Slide Valve	Safety Valve. Slide down to vent air from system.
22.	Drain Pan Discharge	
23.	Supply Air Connection	
24.	Supply Air Connection - Clipper	

Preform DAILY PRE-STARTUP INSPECTION.



OPERATION

1. Connect one end of the 3-inch diameter food hose to the kettle.
2. Position MFS for ease of operation and connect the other end of the food hose to food pump. Additional hoses or a 90° elbow may be used.
3. Lock wheels.
4. Connect air hose from source to MFS.
5. Open VALVE on kettle. Food will flow into food hose.
6. Place casing over discharge nozzle.
7. Squeeze and hold trigger lever until pump has stopped. If a second or third stroke is required, repeat process or set STROKE SELECTION on CONSTANT PUMPING and hold trigger lever while food is being pumped.
8. Move bag over to clipper and clip bag. (refer to Tipper Tie operations manual)
9. Pump a couple of bags to check volume and speed.
10. SUCTION SPEED is the rate at which product is suctioned from kettle. Thick products should be suctioned at a slow speed. Thin products may be suctioned fast.
11. DISCHARGE SPEED is the rate at which product flows out of the discharge nozzle. Most products may discharge fast into bags. Discharge slowly into pans to reduce splashing hot food.
12. Continue to pump until all product has been emptied from the kettle.



DISPOSAL INSTRUCTIONS

This unit is recyclable. Do not dispose in landfill.

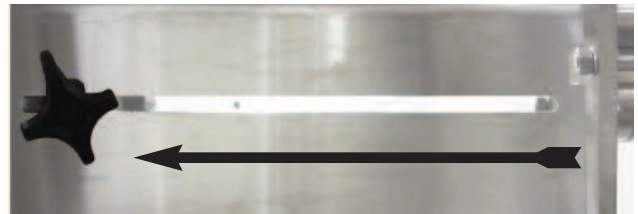
The majority of the unit is composed of stainless steel. Other alloys and electrical components make up a small percentage of the total. Follow Federal, state and local regulations for disposal.

STROKE/VOLUME ADJUSTMENT

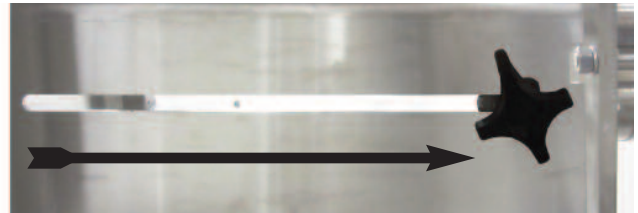
1. Make sure that the product piston is in the suction position.



2. Slide adjuster knob either left, to reduce or right, to increase the desired volume.



Less product volume to the left.



More product volume to the right.

3. To ensure consistent discharge volume the “Suction” and “Discharge” speeds need to be adjusted. More viscous product need slower speeds to allow the product to move and less viscous product can be pumped at a faster speed.



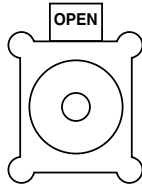
TROUBLE SHOOTING GUIDE

(reference drawings at back of manual)

1. Food pump doesn't work.

NOTE: Recommended operating pressure is 90 to 100 PSI.

- A. Check if there is air supply to the unit.
- B. If the unit is connected to a mixer kettle, check if the AIR QUICK CONNECT is pushed up.



- C. Open the front doors and check that the 3-way lockout valve (item 4 on sheet KE01710-2) is pushed up.
- D. Make sure the air regulator knob (item 42 on sheet KE01710-2) is turned on for pressure to enter the system.

2. If the tubes seem to be covered in oil or the oil is dripping out of the mufflers (item 5 on sheet KE01710-2) then adjust lubricator output. Correct setting is one drop every 10–15 strokes.
3. If the product piston does not move or is slow in shifting during operation, adjust the Discharge or Suction speed knobs to desired speed.
4. If a leak develops around the 5-valve manifold (item 2 on KE01710-2) tighten the screws on top of the valve and the socket head bolts, as these become loose over time.

NOTE: Do not over tighten the socket head bolts as it will bend the clamps resulting in worsening the leak.

5. If the pump cycles one way but not back, check to make sure that limit switches LV1 and LV2 are making contact and the signal is sent to either port 19 or 26 of the 5-valve manifold (see sheet KE01710-3).
6. If cylinder still does not cycle replace 5-valve manifold (item 2 on KE01710-2).

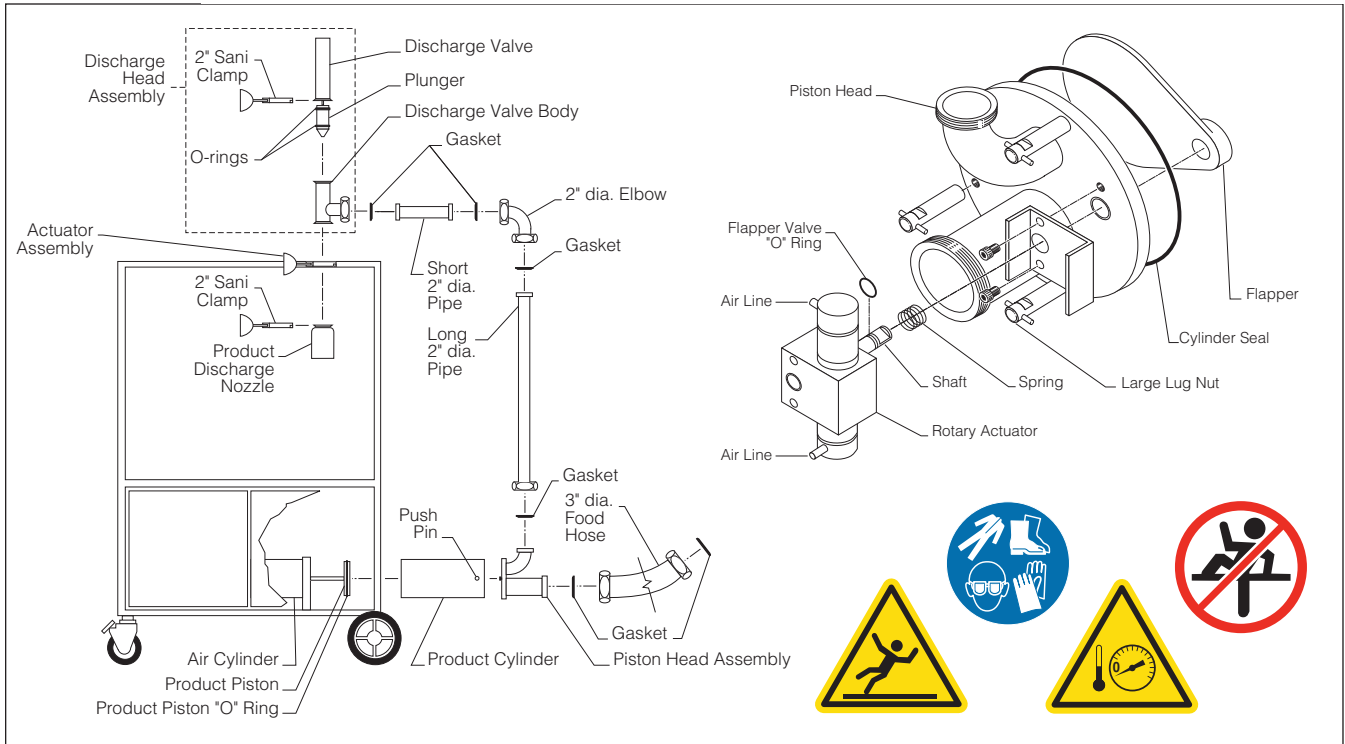
CLEANING INSTRUCTIONS

WARNINGS:



Disconnect Air supply to Metering Filling Station.
 Discharge air pressure from the unit.
 Do not submerge Discharge valve or Rotary Actuator in water.
 Never use steel wool for cleaning; damage to inner surface will result.

Use warm water and mild detergent solution.
 Do not use Chloride cleaners; they may damage stainless steel.
 For difficult cleaning applications use alcohol, baking soda, vinegar or a solution of ammonia in water.

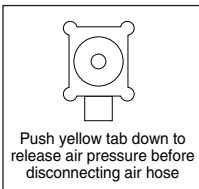


DISASSEMBLY

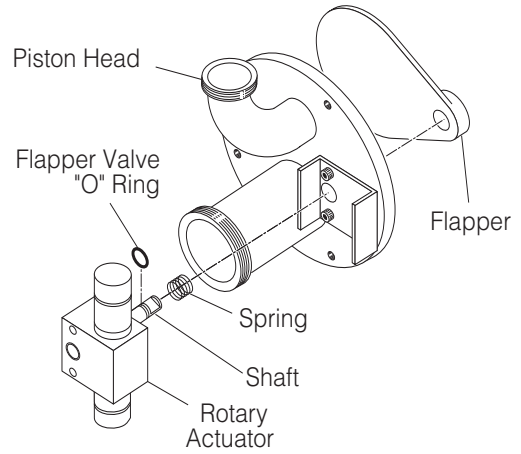
Note: Remove "O" rings using a wooden or plastic picker; DO NOT use a sharp object.



Prepare a properly deluted solution of authorized claning solution in a plastic soak bucket to receive small parts, gaskets and "O" rings.



1. Move slide valve on kettle's air quick connect to down position to stop air supply to metering filling station.



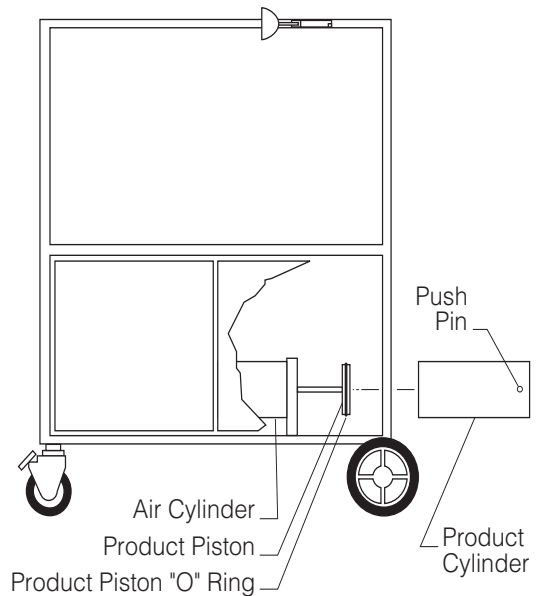
Disassembling Pump head

1. Remove the Black & White air tubes from the Rotary actuator.
2. Unscrew lug nuts using lug wrench to remove the Pump head.
3. Push Rotary actuator in to remove Flapper.
4. Pull out Rotary actuator, remove the spring and "O" ring.



Disassembling Discharge Plunger

1. Remove the Black & White air tubes from Discharge valve.
2. Undo 2" Sani-clamp and remove Discharge valve by sliding it upward until the plunger is out.
3. Using a wooden or plastic picker, remove "O" rings from plunger.
4. Place all "O" rings and gaskets in warm water to soak.



Disassembling Product cylinder

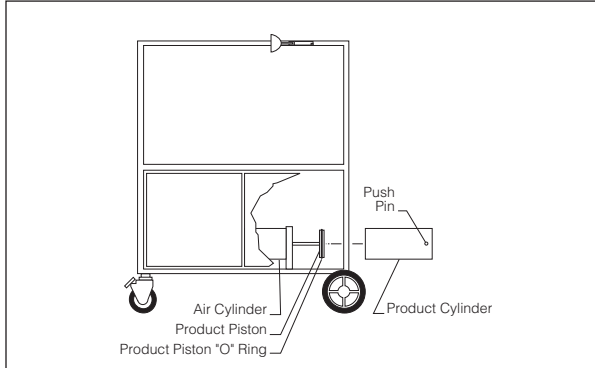
1. Pull product cylinder off product piston. Do not use pliers or any other tool that could damage the inside wall of the cylinder.
2. Using a wooden or plastic picker, remove "O" ring from Product Piston.
3. Clean all parts, except Discharge valve and Rotary Actuator, with warm soapy water or run them through the dishwasher.
4. Clean the interior of all pipes and food hose using the brushes provided.
5. Inspect "O" rings and gaskets for any damage, replace if necessary.
6. Leave parts overnight to dry.

ASSEMBLY

NOTE: To eliminate any chance of recontamination of unit, wear sanitary disposable gloves during reassembly after cleaning.

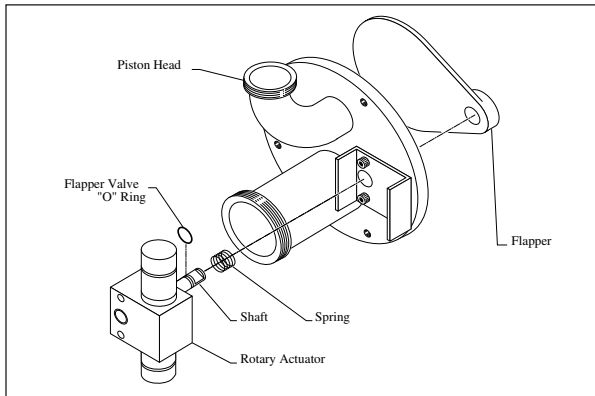
This assembly procedure assumes the unit is fully disassembled.

1. Attach Product Cylinder to Piston Cylinder as follows:



- ⇒ Inspect Product Piston "O" Ring (replace if worn) on Product Piston - lubricate with food grade grease.
- ⇒ Push Product Cylinder over Product Piston and seat firmly in groove.

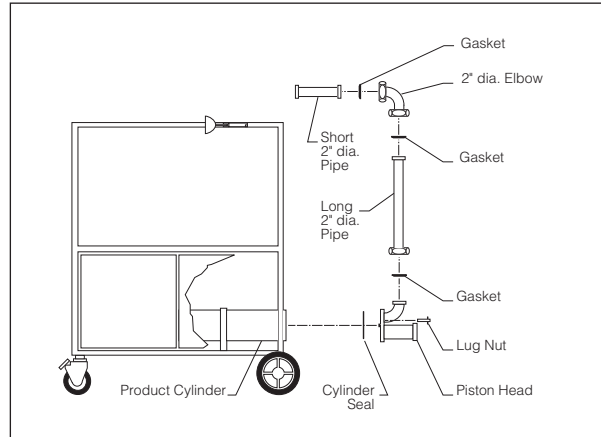
2. Assemble Piston Head Assembly as follows in order:



- ⇒ Inspect Flapper Valve "O" ring on rotary actuator (replace if worn).
- ⇒ Lubricate "O" ring with food grade grease and put on shaft.
- ⇒ Put Spring on Shaft.
- ⇒ Slide Rotary Actuator Shaft thru hole in Piston Head.
- ⇒ Mount Flapper to Shaft.

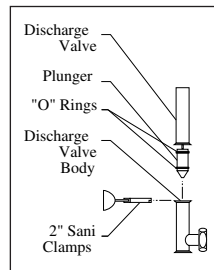
3. Assemble piston and piping as follows in order:

NOTE: Use 2" gaskets in all hex nut couplings.



- ⇒ Put Cylinder Seal in place. Lubricate exposed portion of Cylinder Seal then mount Piston Head to Product Cylinder, and fasten in place with large Lug Nuts using lug wrench for final tightening.
- ⇒ Attach two 1/4" air lines to Rotary Actuator (black line on top).
- ⇒ Reassemble 2" piping on Piston Head as illustrated using gaskets and saniclamps.

4. Assemble discharge head assembly in order as follows:

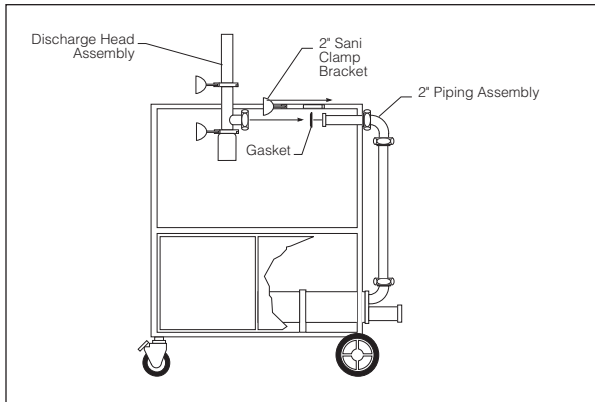


- ⇒ Inspect and install "O" Rings (replace if worn) on Plunger - larger one in top groove - smaller one in bottom groove.
- ⇒ Apply sufficient food grade grease on the plunger
- ⇒ Push Plunger into Discharge Valve Body.
- ⇒ Attach Discharge Valve to Discharge Valve Body using 2" Sani-Clamp.
- ⇒ Attach Discharge Nozzle to Discharge Valve Body

FLUSHING & SANITIZING

BETWEEN RECIPES

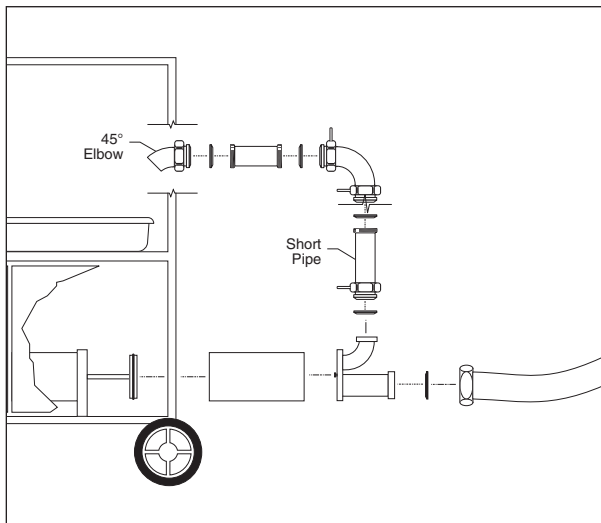
5. Attach Discharge Head Assembly as follows:



- ⇒ Mount Discharge Head Assembly on Short 2" diameter Pipe (use Gasket).
- ⇒ Rotate Discharge Head Assembly into 2" Sani-Clamp Bracket and fasten clamp.
- ⇒ Attach two 1/4" air lines to Discharge Valve (black on top).

6. Pan Filler System Option:

- ⇒ Using Short Pipe and 45° Elbow attach as shown



CLEANING PUMP BODY

1. Disconnect main air line from Metering Filling Station.
2. Move pump so that Drain Pan Discharge Outlet is over floor drain. Floor around unit may become slippery from cleaning.
3. Remove Drain Screen. Thoroughly wash and rinse the screen in a sink or a dishwasher.
4. Prepare a warm water and mild detergent solution.
5. Remove food soil using a nylon brush.
6. Rinse thoroughly.

1. Clean between batches of product, flush kettle and Metering Filling Station.
2. Remove product Discharge Nozzle and replace it with cleaning hose.
3. Place end of cleaning hose over a drain.
4. Switch stroke selector switch to "CONSTANT PUMPING".
5. Pull and hold trigger lever against discharge valve nozzle until kettle has been emptied.
6. Add clean water to kettle, and repeat process to rinse units.

TROUBLESHOOTING & MAINTENANCE PROCEDURES / DÉPANNAGE ET PROCÉDURES DE MAINTENANCE / PROCEDIMIENTOS DE SOLUCIÓN DE PROBLEMAS Y MANTENIMIENTO

All trouble shooting guides and maintenance procedures are meant to be used by Qualified Service Technician. / Tous les guides de dépannage et les procédures d'entretien sont destinés à être utilisés par un technicien qualifié. / Todas las guías de solución de problemas y los procedimientos de mantenimiento están diseñados para ser utilizados por un técnico calificado.



Any repairs to the pressure vessel must be done by a certified pressure vessel repair shop and all repair methods and materials must be approved by the manufacturer. / Toute réparation du Navire à pression doit être effectuée par un atelier de réparation agréé et toutes les méthodes et matériaux de réparation doivent être approuvés par le fabricant. / Cualquier reparación del recipiente a presión debe ser efectuada por un taller de reparación certificado y todos los métodos y materiales de reparación deben ser aprobados por el fabricante.

Se debe tener extrema precaución si el aparato está alimentado eléctricamente para realizar las pruebas. Retire la fuente de alimentación de la unidad durante el mantenimiento. / Une prudence extrême doit être prise si l'appareil est alimenté électriquement pour les essais. Retirer l'alimentation de l'appareil pendant l'entretien. / Se debe tener extrema precaución si el aparato está alimentado eléctricamente para realizar las pruebas. Retire la fuente de alimentación de la unidad durante el mantenimiento.

BASIC OPERATION

Single Cycle Operation

Turn the Stroke selector switch to "Single Stroke" (item 14 on sheet KE01710-2). It will do the following when the Actuator switch is pressed (item 32 on sheet KE01710-2).

- Shifts 2nd valve (item 3 on sheet KE01710-4), which turns off 1st valve (item 2 on sheet KE01710-4) and takes the signal away from point #24 (see view "A" on sheet KE01710-3).
- Single cycle valve (item 6 on sheet KE01710-4) is now turned on. It gives one shot of air to 3rd valve #3 which shifts and turns on valves in Group A.
- The Pump valve (item 5 on sheet KE01710-2) now shifts (point 1) and valve #4 & #5 shift (points 11 & 12). This actuates Nozzle Cylinder (item 30 on KE01710-2) and Flapper Cylinder (item 31 on KE01710-2).
- When the Product piston is completely retracted it hits limit switch LV1 (item 33 on KE01710-2). This shifts valve #3 back through point 19 which turns on Group B which shifts the Pump valve (point 2) and shift the valve #4 & #5 back (points 22 & 23) which actuate the Nozzle cylinder (item 30 on KE01710-2) and Flapper cylinder (item 31 on KE01710-2) to complete the Single cycle.

Single Cycle operation

Turn Stroke selector switch to Constant pumping cycle. It will do the following when the Actuator switch is pressed.

- Shifts valve #2 which in turn shifts valve #1 (point 31). This turns on valve #3 (point 24) if LV2 (item 33 on KE01710-2) is activated which turns on Group A.
- The Pump valve (item 5 on sheet KE01710-2) now shifts (point 1) and valve #4 & #5 shift (points 11 & 12). This actuates Nozzle Cylinder (item 30 on KE01710-2) and Flapper Cylinder (item 31 on KE01710-2).
- When the Product piston reaches the full stroke, it hits limit switch LV1 (item 33 on KE01710-2). This shifts valve #3 back through point 19 which turns on Group B which shifts the Pump valve (point 2) and shift the valve #4 & #5 back (points 22 & 23) which actuate the Nozzle cylinder (item 30 on KE01710-2) and Flapper cylinder (item 31 on KE01710-2).
- When the Product piston completes the first cycle, LV2 is hit again and turns valve #1 back on and shifts valve #3 again (point 24) and starts another cycle all over again.
- This will continue until the selector switch is turned off, which shuts off air to valve #2 and stops supplying air to valve #1, which will not turn on valve #3 to start another cycle.

ADJUSTMENT & SETTING OF AIR CUSHION

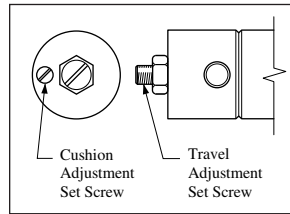


Figure 1

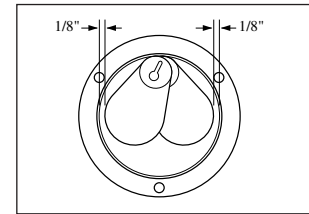


Figure 2

SECTION 1 - Adjustment of Valve Paddle Travel

NOTE: When looking at the pump head (paddle side), left side paddle travel is affected by the right side air cylinder travel adjustment set screw and vice versa.

1. Back off 9/16" lock nut on 3/8" dia. set screw as shown in Figure 1.
2. Adjust set screw until valve paddle is 1/8" away from inside O-ring and edge as shown in Figure 2.
3. Secure lock nut.
4. Recheck 1/8" distance between paddle and edge.
5. This side is now set. Follow the same procedure for the other side.

SECTION 2 - Setting of Air Cushion

NOTE A: Again left side paddle cushioning is affected by the right side air cylinder cushion set screw (3/16" dia.) and vice versa as shown in Figure 1.

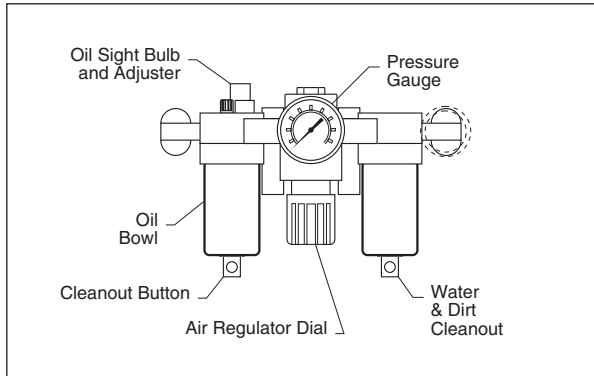
NOTE B: Turning set screw in increases air cushion action and vice versa.

CAUTION: Avoid fingers around paddle travel area, personal injury may result.

1. Support the head assembly securely and connect the air lines to the rotary actuator air cylinders. Activate air to start rotary action.
2. Observe air cushion action at the end of each swing. Optimum cushion action can best be described as a controlled deceleration of the paddle at the end of the swing with complete elimination of rotational momentum in the shortest time possible. Adjust set screw to achieve results on both sides.

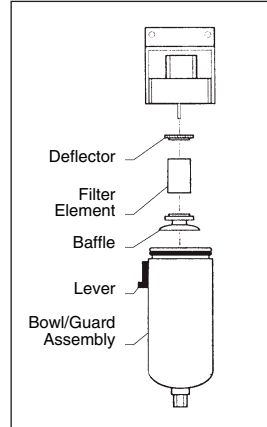
AIR PRESSURE

1. Adjust air regulator or line pressure so that air pressure gauge reads 90 - 100 psi when unit is running on continuous cycle (stroke selector switch is set on "constant pumping").



2. Drip Adjustment -
⇒ Observe the sight bulb on the top of the oiler. One drop of oil into the lines for every ten to fifteen cycles of the product piston.
⇒ If adjustment is necessary turn the sight bulb clockwise for more oil, counter clockwise for less oil.
3. Adding Oil -
Use only mineral oil in th oiler.
⇒ Remove air supply from unit.
⇒ Remove oiler bowl (as per instructions on the bowl).
Fill to line and replace.

AIR FILTER REPLACEMENT PROCEDURE



The air filter is designed to separate a small amount of dirt and water from the supply air. This filter is NOT designed to clean air straight from the compressor. You must install a separate filter and drier in the supply line to deliver air with a dew point of less than 65° F.

1. Check for water accumulation daily. If water is present, push small button at the bottom of bowl and allow the water to spray out.
NOTE: If the bowl has to be drained regularly (more than once a week) then the supply air has not been sufficiently dried.
2. If the air filter cartridge is dirty then it should be replaced.
⇒ Turn off air to the unit.
⇒ Remove bowl.
⇒ Separated deflector and baffle
⇒ Install new filter.
⇒ Reassemble.

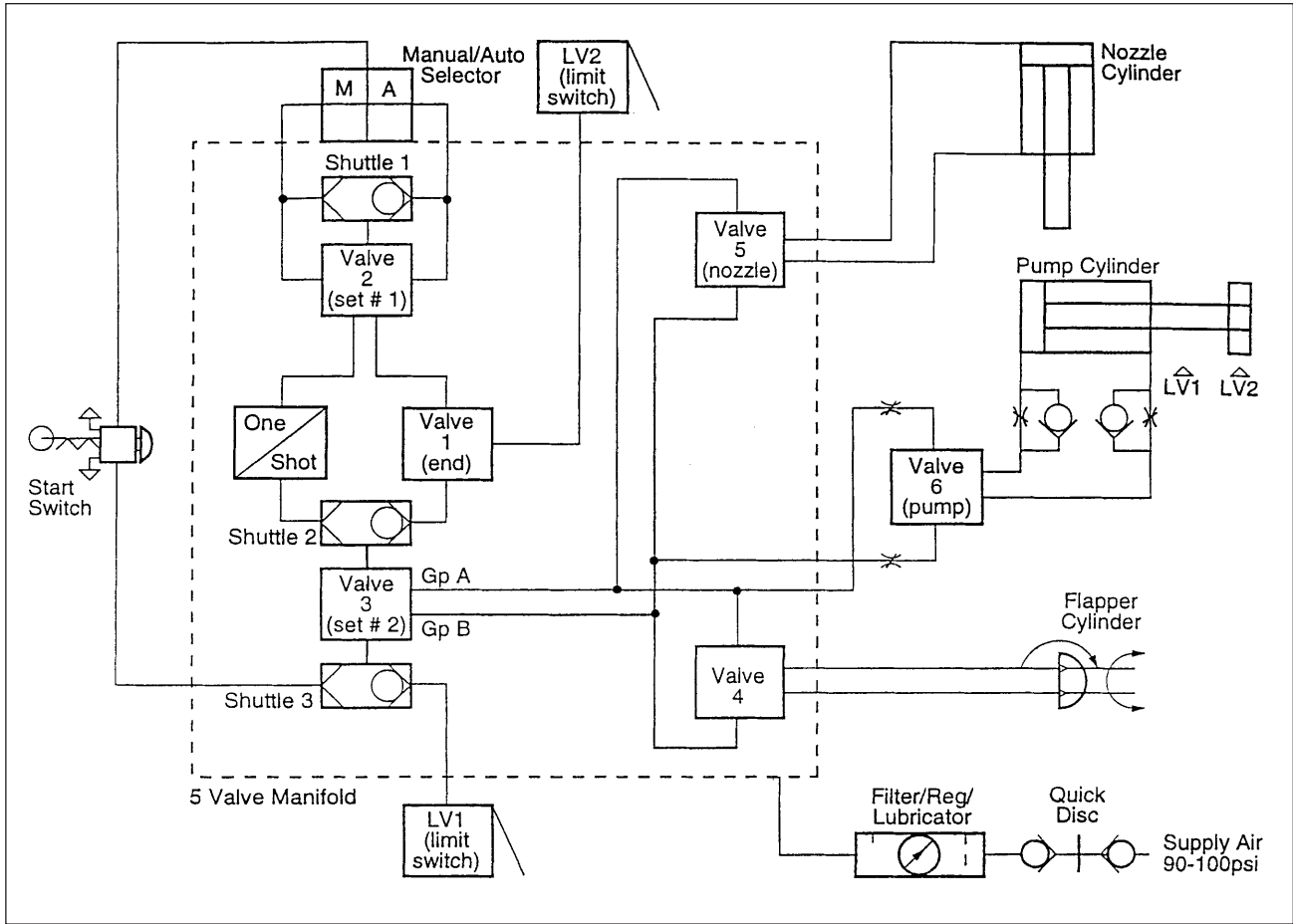
STROKE ADJUSTMENT

The amount of delay between the time the product piston reaches the end of a half stroke and the reversing of direction can be adjusted.

1. The two flow controls (LV1 & LV2) are located to the left of the product piston.
2. Loosen locking nut.
3. Set selector switch to continuous and have someone hold the nozzle trigger as you adjust the delay.
4. Retighten the locking knob.

The product piston stroke can be adjusted by loosening the knob and moving the limit switch LV1. Move to left to shorten the stroke or the right to increase.

PNEUMATIC SCHEMATIC



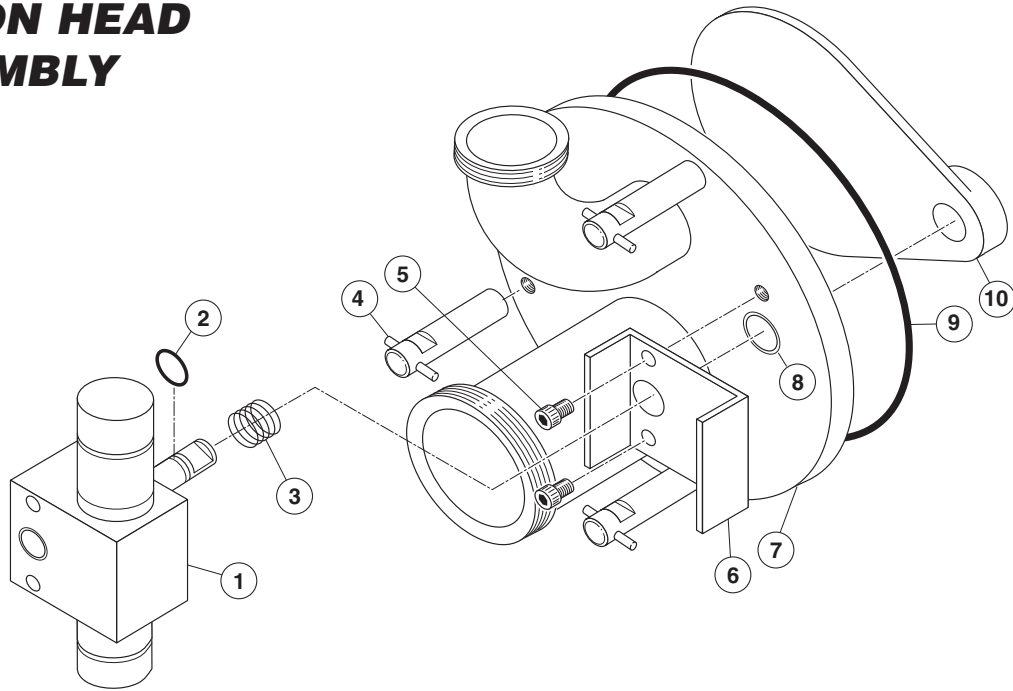
SERVICE PARTS

WARRANTY

Our Company supports a worldwide network of Maintenance and Repair Centers. Contact your nearest Maintenance and Repair Centre for replacement parts, service, or information regarding the proper maintenance and repair of your cooking equipment

In order to preserve the various agency safety certification (UL, NSF, ASME/Ntl. Bd., etc.), only factory-supplied replacement parts should be used. The use of other than factory supplied replacement parts will void warranty.

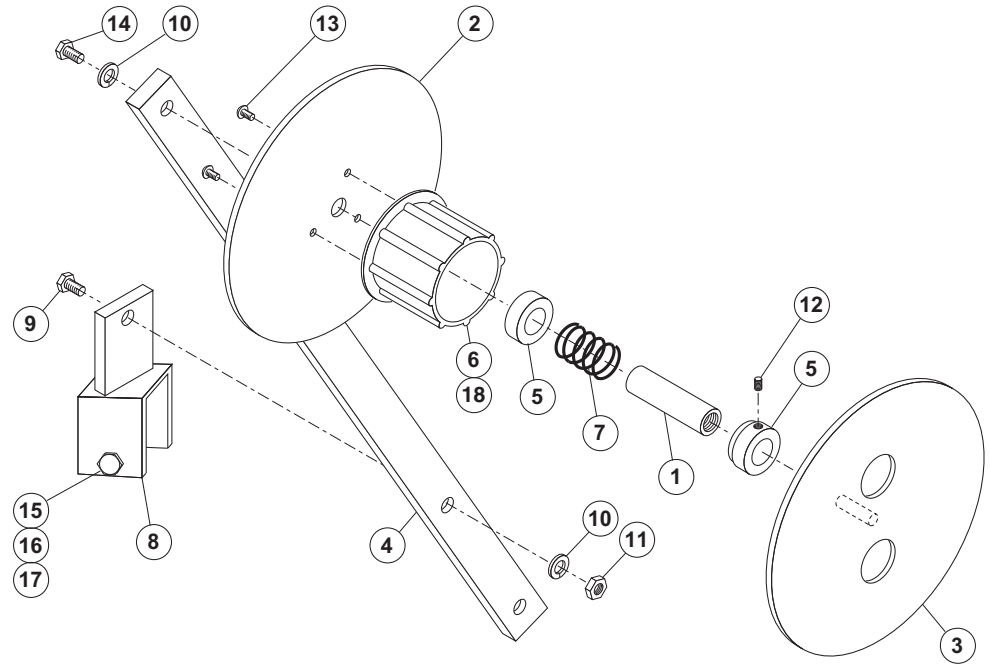
PISTON HEAD ASSEMBLY



PISTON HEAD ASSEMBLY

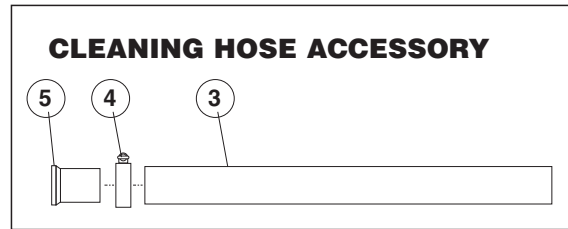
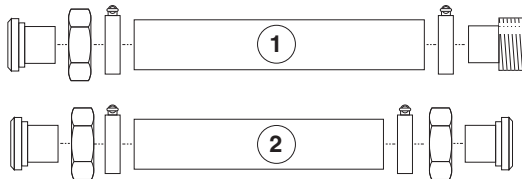
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1. - 10.	SE00068-1	Pump head assembly	1
1.	KE53014-1	Rotary actuator	1
ROTARY ACTUATOR REPAIR KITS	SE50454	Bearing kit	1
	SE50455	Seal kit	1
	SE50455-1	Gear shaft assembly	1
2.	FA05002-24	"O" Ring, cylinder	1
3.	KE53056	Spring	1
4.	KE01302	Lug nuts	3
5.	FA11322-1	Hex cap screws	2
6.	KE53659-1	Bracket	1
7.	KE003731	End plate, includes 5 & 6	1
8.	KE53016	Bearing	1
9.	FA05002-2	"O" Ring, pump head	1
10.	KE603701	Valve Paddle	1

LABEL DISPENSER



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1-17	KE01387	Label Dispenser Assembly	1
1.	KE53186	Hub Mounting Shaft	1
2.	KE53187	Labeller Back Plate	1
3.	KE01386	Labeller Front Plate Assembly	1
4.	KE53268	Bar	1
5.	KE54139	Bushing	1
6.	KE53265	Core Holder	1
7.	KE53266	Spring	1
8.	KE01383	Labeller Mount	1
9.	FA11258	Hexhead Screw	1
10.	FA31029	Lock washer	2
11.	FA21008	Hex Nut, #1/4-20	1
12.	FA19500	Hex Socket	1
13.	FA11056	Binding Head Screw, #6-32x1/2" lg.	3
14.	FA11260	Hexhead Screw, #1/4-20x1" lg.	1
15.	FA11328	Hex Head Screw	1
16.	FA31030	Lock Washer	1
17.	FA21024	Hex Nut	1
18.	KE54751-2	Bushing	1

HOSE ASSEMBLIES



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	KE01749-3	Food Hose Assembly, 3'	1
2.	KE01749-2	Food Hose Assembly, 3'	1
	KE01333	Cleaning Hose Assembly, includes items 3, 4 & 5	1
3.	KE55470-1	Cleaning Hose	1
4.	FI05220-2	Hose Clamp	1
5.	FI05255	Hose Adapter 2"	1

MISCELLANEOUS PARTS

KE54166 - Brush Hanger

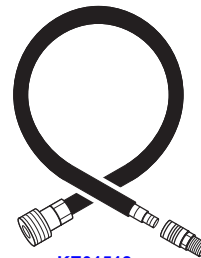
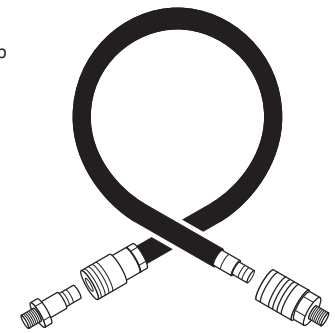
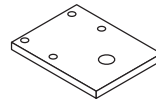
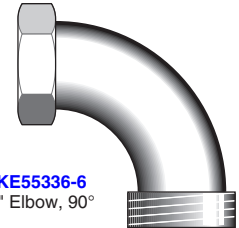
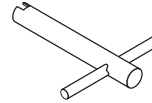
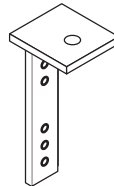
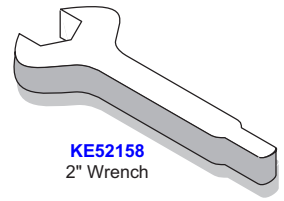
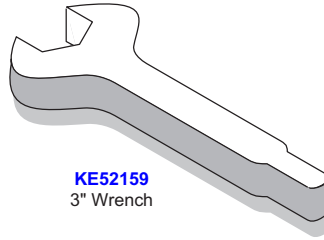
KE54163
Nylon Brush
for 3" Food
Product Hose

KE54164
12" Nylon Brush
1/2" dia.

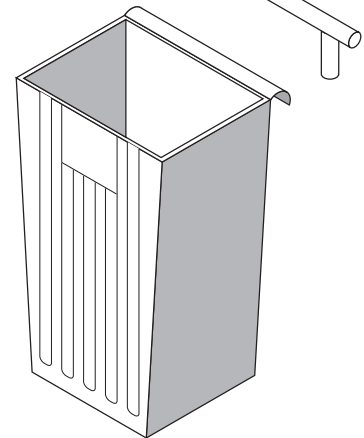
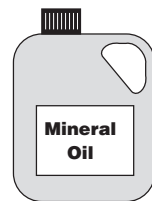
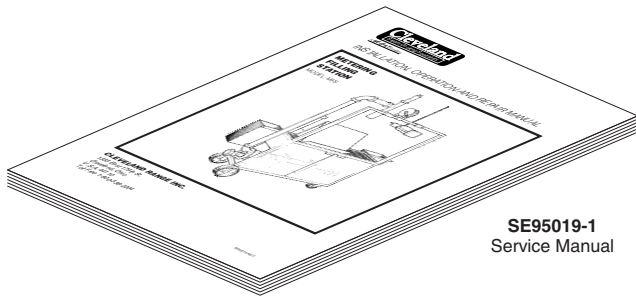
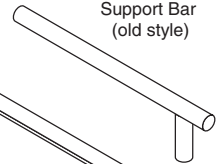
KE54165
36" Nylon Brush
for 2" Piping

CB
Nylon Scrub Brush

KE01776
Nylon Brush Kit



KE003651-1RH
KE003651-2LH
Trash Container
Support Bar
(old style)

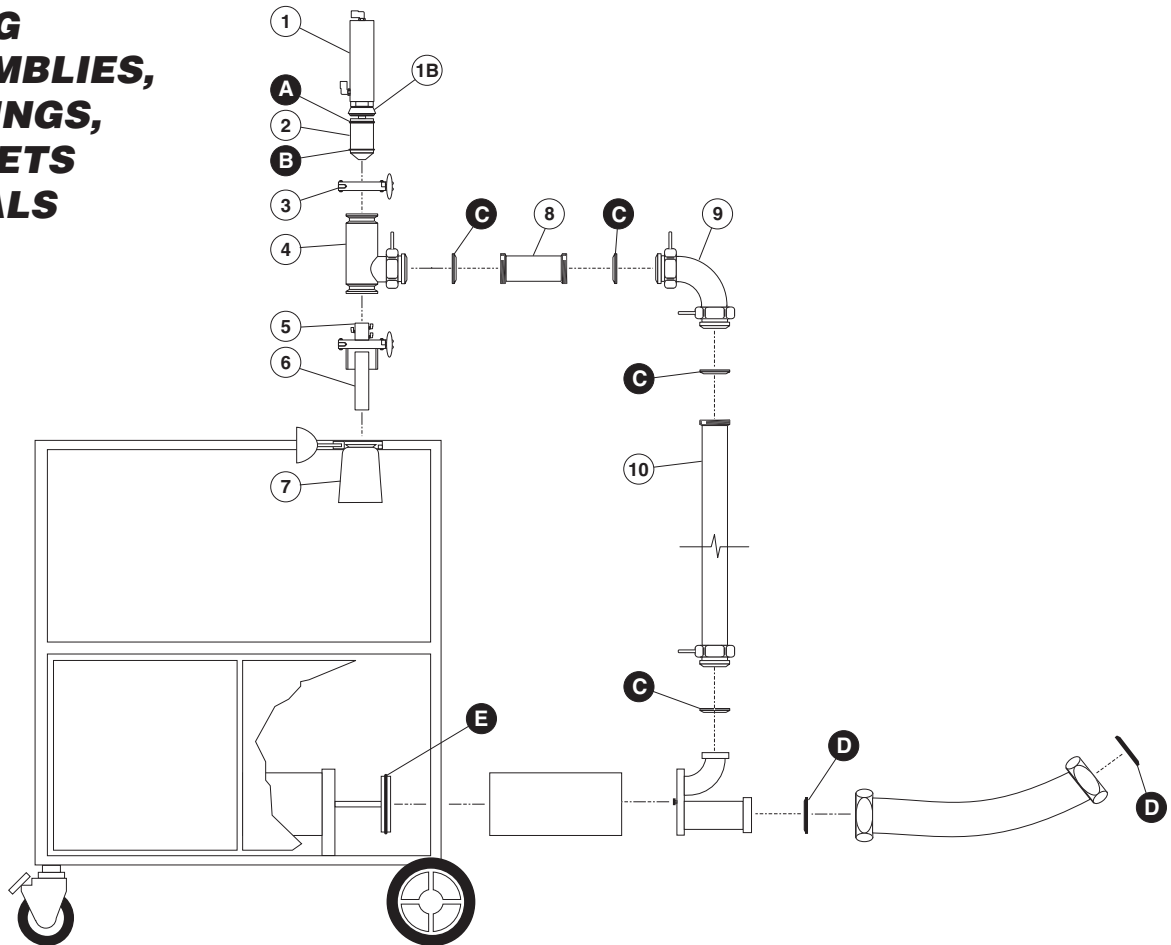


FI05300
2" Elbow, 45°

KE01316-3
2" Vertical Pipe

Pan Filler

PIPING ASSEMBLIES, "O" RINGS, GASKETS & SEALS



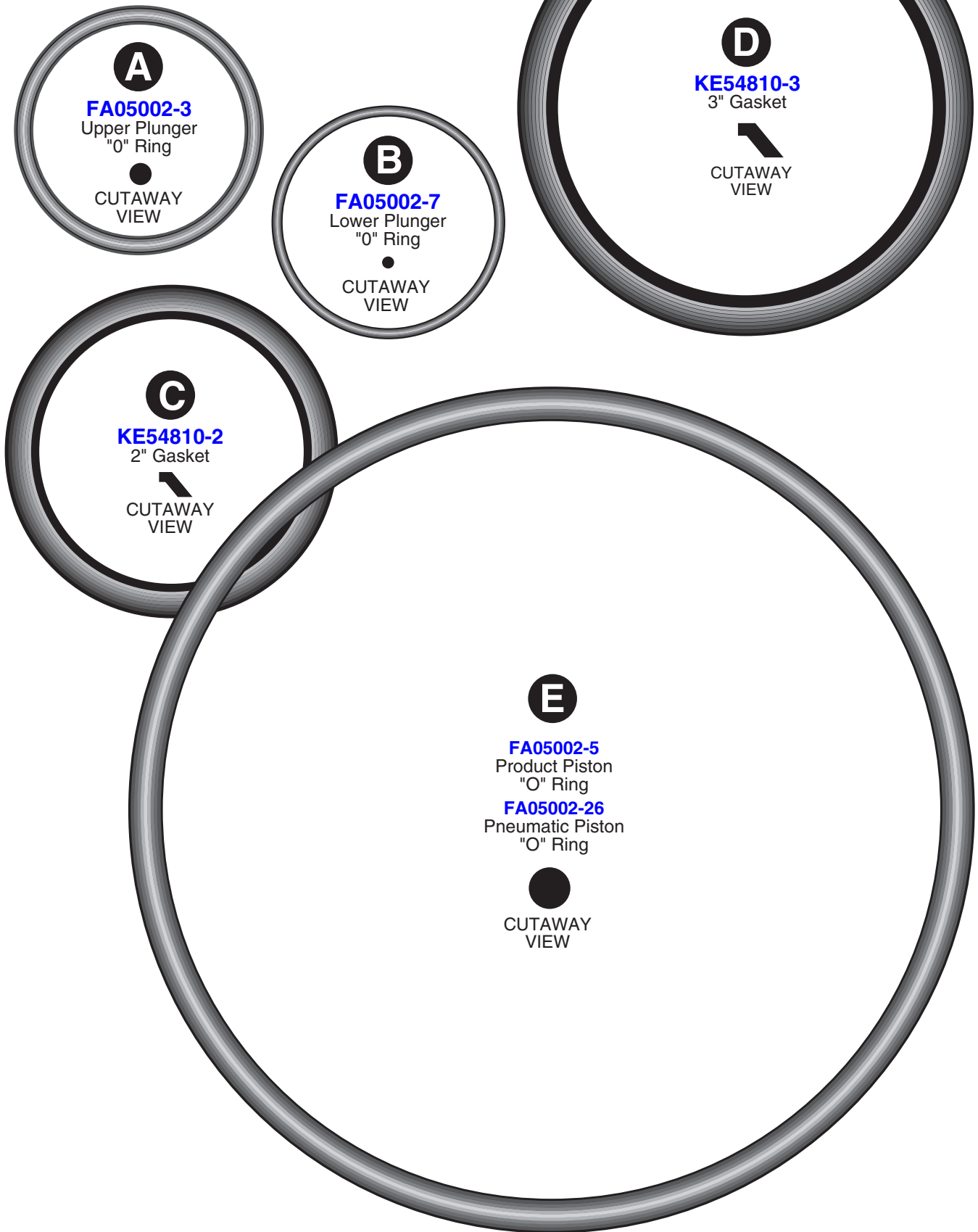
PIPING ASSEMBLIES

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	KE53270	Air Cylinder	1
1B.	KE53249	Mounting Nut, Air Cylinder	1
2.	KE53250	Plunger	1
3.	FI05144-1	Sani-clamp, 2"	Standard Configuration1 Optional Strainer Configuration3
4.	KE01385	Discharge Valve Body	1
5.	KE54287	Start Switch	1
6.	KE00905	Actuator Assembly	1
7.	KE01384	Discharge Nozzle	1
8.	KE00920	Short Connector Pipe, 2"	Standard Configuration1
9.	KE01974	Elbow, 2"	1
10.	KE01316-1	Long Connector Pipe, 2"	Standard Configuration1

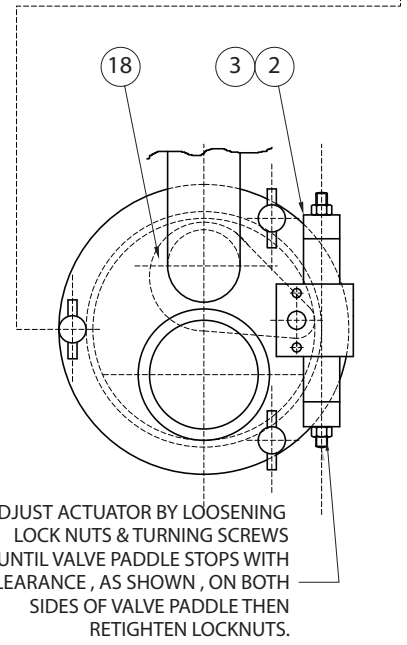
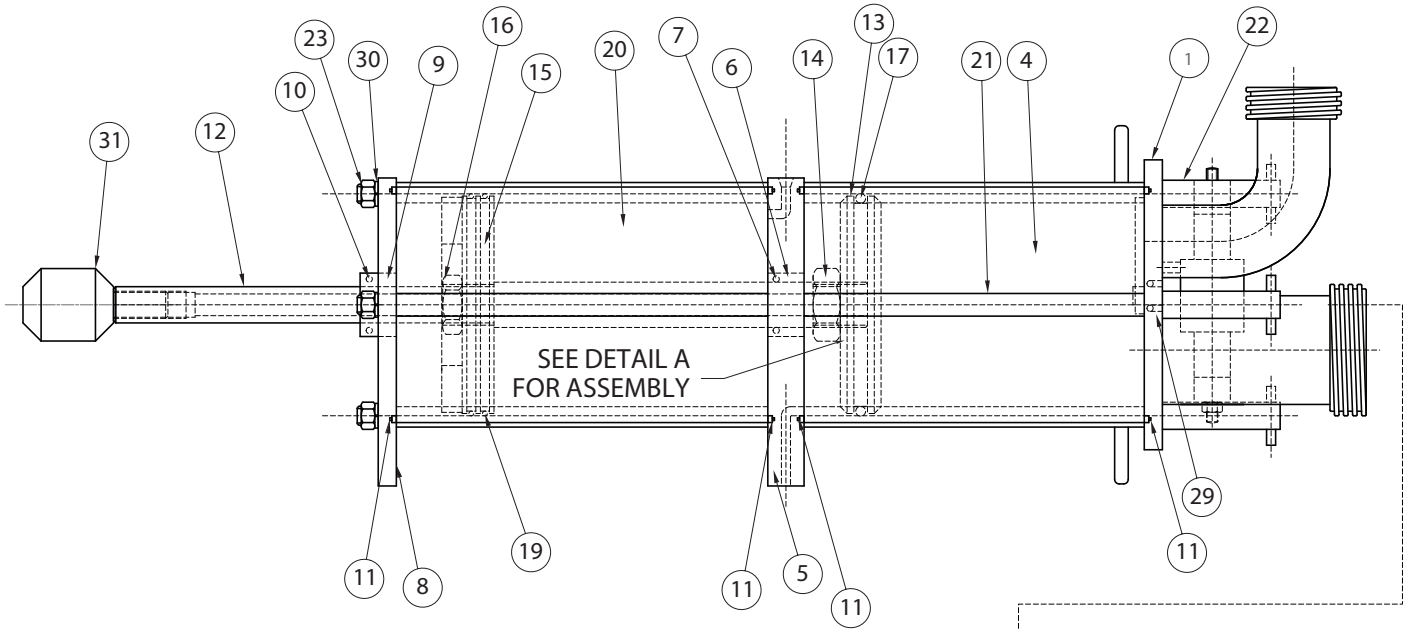
"O" RINGS, GASKETS & SEALS

ITEM NO.	PART NO.	DESCRIPTION	QTY.
A.	FA05002-3	Upper Plunger "O" Ring	1
B.	FA05002-7	Lower Plunger "O" Ring	1
C.	KE54810-2	Gasket, 2" Bevel Seat	Standard Configuration4 Optional Strainer Configuration2
D.	KE54810-3	Gasket, 3" Bevel Seat	2
E.	FA05002-5	Product Piston "O" Ring	1

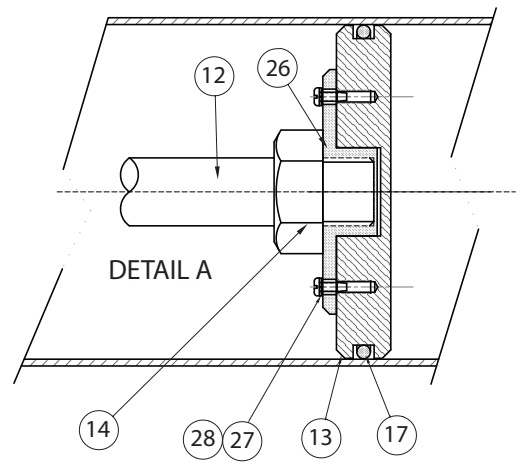
"O" RINGS, GASKETS & SEALS



PUMP ASSEMBLY

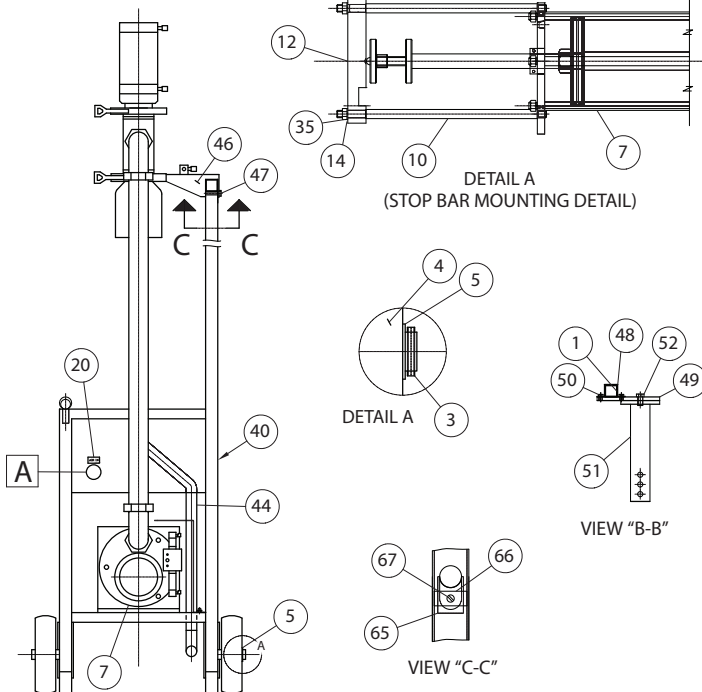
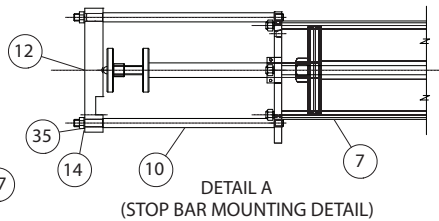
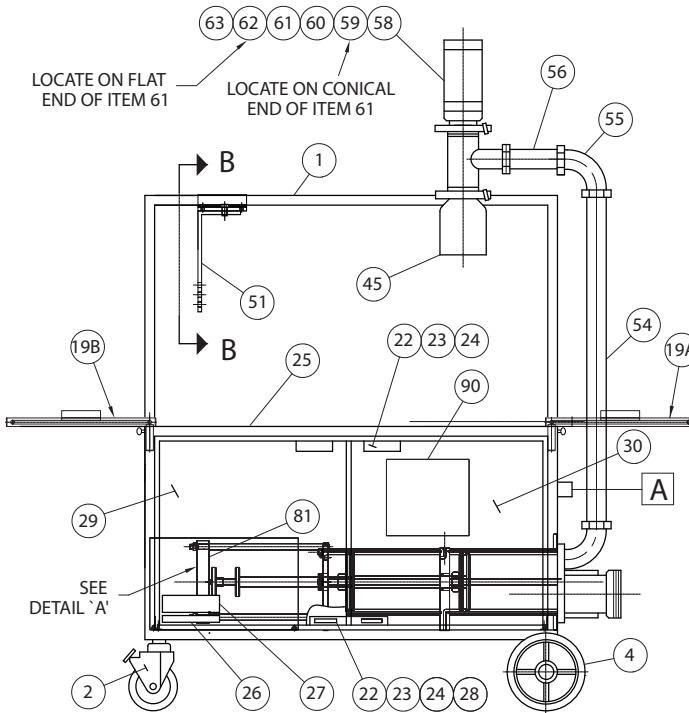
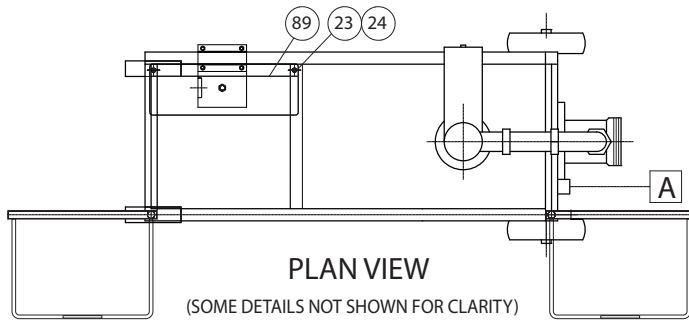


ITEM	PART_#	DESCRIPTION	QTY
1	KE003731	END PLATE ASSEMBLY	1
2	KE53014-1	ROTARY ACTUATOR, MODIFIED	1
3	KE53056	SPRING, ASSOCIATED SPRING	1
4	KE02005	PRODUCT CYLINDER ASSEMBLY	1
5	KE53037	CENTRE PLATE	1
6	KE53035	PISTON ROD BEARING	1
7	FA05002-1	O'RING: VITON (A-214)	1
8	KE603972	PNEUMATIC END PLATE	1
9	KE53034	PISTON ROD BEARING , END PLATE	1
10	FA05002-6	O'RING, VITON, (A-218)	1
11	FA05002-2	O.RING, FDA BUNA-N (2-164)	4
12	KE603968	SHAFT	1
13	KE53031	PRODUCT PISTON	1
14	FA22502-1	JAM NUT, 1 1/4-7	1
15	KE603967	PNEUMATIC PISTON	1
16	FA22502-2	JAM NUT, 1 1/8-12	1
17	FA05002-5	O'RING FDA BUNA, (A-434)	1
18	KE603701	VALVE PADDLE	1
19	FA05002-26	O'RING VITON (A-434)	2
20	KE53039	CYLINDER	1
21	KE53043	REACH ROD	6
22	KE01302	LUG NUT ASSEMBLY	3
23	FA21026	HEX. NUT, 3/8-16, 18-8 S.S.	3
26	KE54401	BACKING PLATE	1
27	FA11258	HEX CAP SCREW, 1/4-20 X 3/4	6
28	FA32008	LOCK WASHER	6
29	FA05002-24	O'RING BUNA-N (A-1110)	1
30	FA31031	SPLIT LOCKWASHER; 3/8	3
31	KE603969	ACTUATOR	1



KE00796 rev. A
11/08/2012

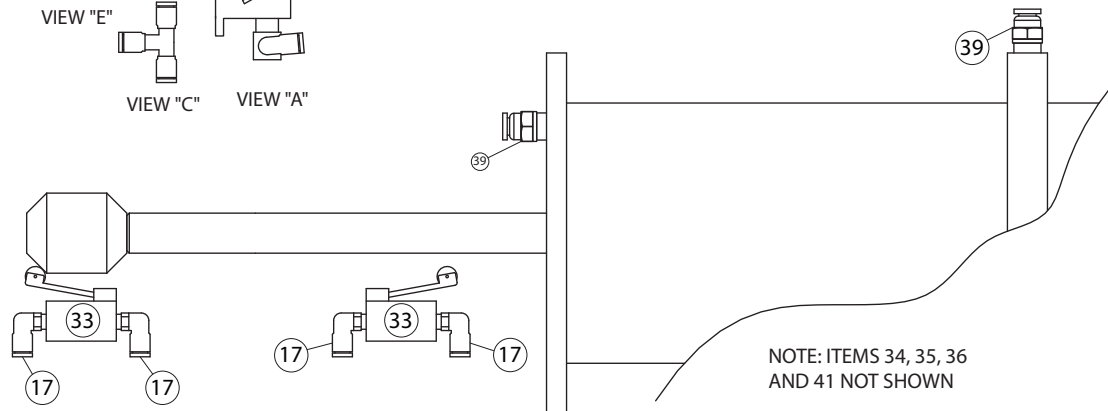
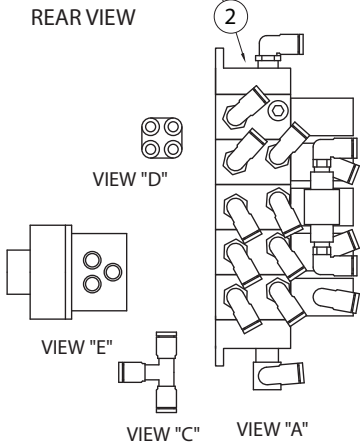
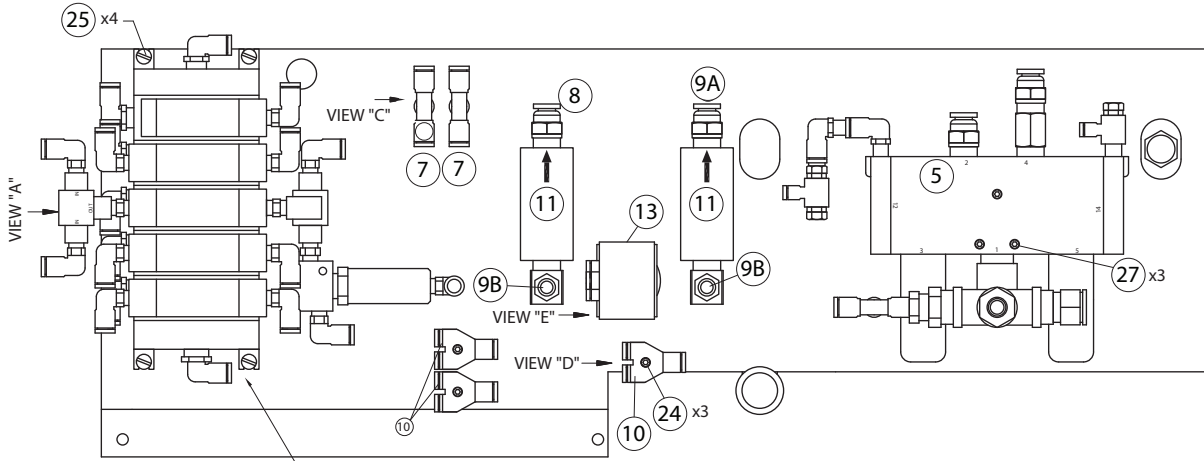
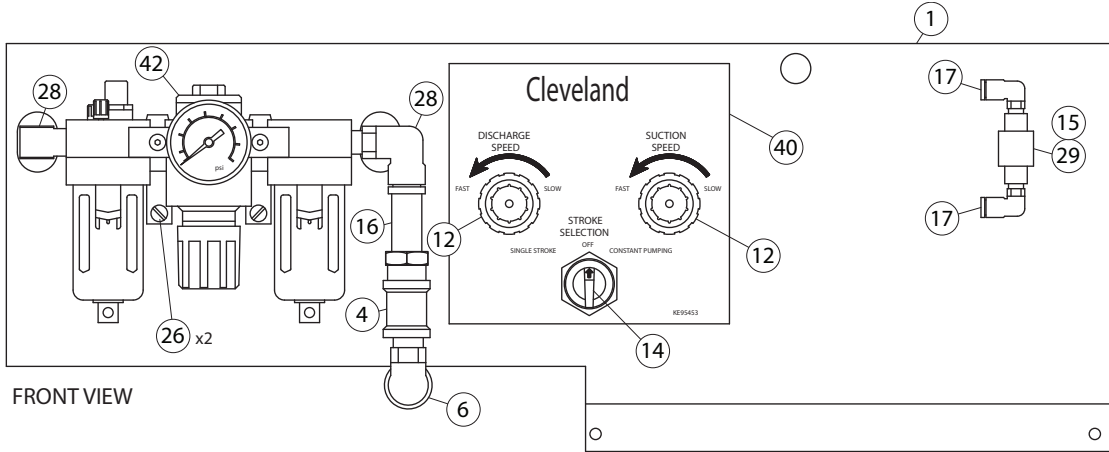
GENERAL ASSEMBLY



BILL OF MATERIALS

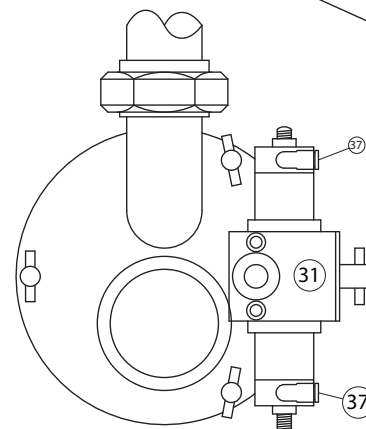
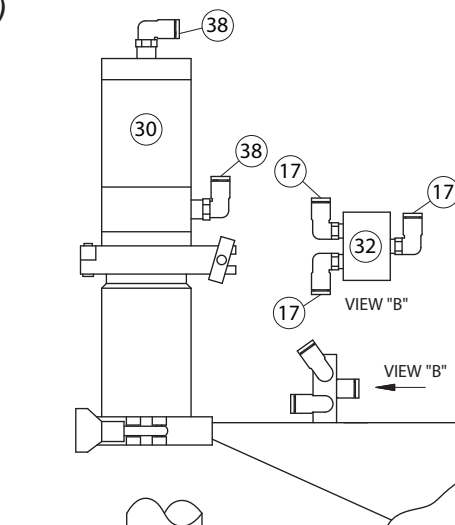
ITEM	PART #	DESCRIPTION	QTY
1	KE01310	FRAME WELDMENT	1
2	KE53068	SWIVEL CASTER	2
3	FA95005	TENSION PIN 3/16x1 1/4 LG.	2
4	KE52128	WHEEL, COLSON CASTER #5-8-921	2
5	KE52123	WASHER	4
6	FA11518-1	THUMB SCREW #3/8-16 x 1	2
7	KE01309	PUMP ASSY	1
8	FA11323	HEX HD BOLT #5/16-18x3/4 LG SS	1
9	FA31030	SPLIT LOCKWASHER #5/16 SS	4
10	KE53048	STOP REACH ROD	2
11	KE53047	STOP BAR	1
12	FA21026	HEX NUT #3/8-16 SS	2
13	FA31033	SPLIT LOCKWASHER #1/2 SS	2
14	KE53044	LIMIT SW. MTG. BRKT LEFT SIDE	1
15	KE003651-1	R. H BASKET HANGER	1
19A	KE003651-2	L.H BASKET HANGER	1
19B	KE95233	LABEL "AIR IN"	1
20	KE95235	LABEL "AIR TO CLIPPER"	1
21	KE52119-1	MAGNET MTG. BRKT.	2
22	FA31029	SPLIT LOCKWASHER 1/4"	12
23	FA21008	HEX NUT #1/4-20 SS	6
24	KE00908	WIRE GRID	1
25	KE95089-1	NAMEPLATE "CLEVELAND" BLUE SS	1
26	KE52133	MAGNET SOUTHCO #02-10-201-10	4
27	KE00923	DOOR, LEFT HAND	1
28	KE00924	DOOR RIGHT HAND	1
29	KE01388-1	DOOR HINGE LEFT HAND	1
30	KE01388-2	DOOR HINGE RIGHT HAND	1
31	FA11256	HEX HD BOLT #1/4-20x1/2	2
32	FA21500	PLAIN NUT 1/2"	2
33	KE01388-2	DOOR HINGE RIGHT HAND	1
34	FA11145	BINDING HD. SCREW #10-32x3/8 SS	8
35	FA31027	HELICAL SPLIT LOCKWASHER #10 SS	8
36	KE54278	BOTTOM STOP FOR REMOVABLE PANEL	2
37	KE01713	REMOVABLE PANEL ASSY	1
38	KE95307	LABEL "MODEL AND SERIAL NO."	1
39	KE95010	NSF LABEL	1
40	KE54869	PVC TUBING, 3/8x10 FT. LG.	1
41	KE00925	DRAIN PIPE ASSY	1
42	KE01384	FILLER NOZZLE ASSY	1
43	KE00905	ACTUATOR ASSY	1
44	FA11255	HEX HD BOLT #1/4-20x3/8	2
45	KE52095	CLIPPER BAR CLAMP	1
46	KE52096	CLIPPER CLAMP PLATE	1
47	FA11255	BOLT MODIFICATION	4
48	KE00911	CLIPPER HANGER ASSY	1
49	FA11500	BOLT MODIFICATION	1
50	KE52154-1	GASKET T.C. #SC40B-2	1
51	KE01316-1	VERTICAL PIPE	1
52	KE01974	ELBOW 90° TRI-CANADA #2NN-2"	2
53	KE00920	DELIVERY PIPE SHORT	1
54	KE54810-2	GASKET TRICANADA #HDB40N-2	4
55	KE53270	DISCHARGE VALVE	1
56	FA05002-7	O RING	1
57	KE53249	CYLINDER MTG. NUT	1
58	KE53250	DISCHARGE VALVE PLUNGER	1
59	FA05002-3	O RING	2
60	KE01385	DISCHARGE VALVE BODY	1
61	FI05144-3	SANICLAMP T.C. #SC13HDWN-2	2
62	KE54690-1	BLANKING PLATE	1
63	KE54690-2	BLANKING PLATE	1
64	KE603825	LABEL; HAND CRUSH/FORCE FROM ABOVE	1
65	KE53044-1	LIMIT SW. MTG. BRKT RIGHT SIDE	1
66	FI05316	QUICK-CONNECT FITTING	1
67	T40520	PACKAGED ITEMS	1
68	KE95455	LABEL PNEUMATIC CIRCUIT DIAGRAM	1
69	PA00000-23	SKID MFS-Y	1
70	SE95019-1	MANUAL, INSTALLATION/OPERATING/REPAIR	1
71	KE01712	PNEUMATICS ASS'Y.	1
72	KE603952	PUMPING ASSEMBLY COVER	1
73	KE603955	SAFETY WARNING LABEL	1

PNEUMATIC PACKAGE (KE01710-2, page 1 of 2)



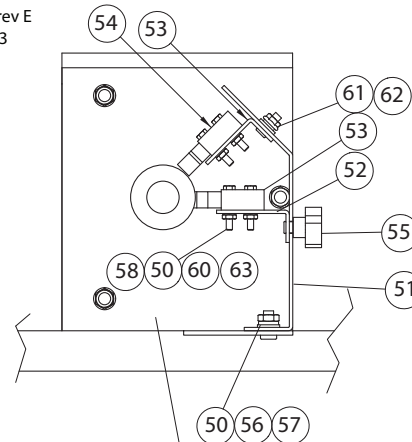
PNEUMATIC PACKAGE (KE01710-2, page 2 of 2)

ITEM #	PARTS #	DESCRIPTION	MANUFACTURE #	QTY.
1	KE53042	Pneumatic Components Mounting Plate		1
2	KE01710-4	5 Station Valve Manifold Assembly		1
4	KE601383	3-way Lock Out Valve	IN530-022-022	1
5	KE01710-5	Pump Valve Assembly		1
6	KE55479	Push-in Elbow 1/2 X 3/8	IN109-102-022	1
7	KE55475	Male Run Tee 3/8 NPT X 1/4 Tube	-----	2
8	KE601374	1/2" X 1/2" Straight Push-on Hose Connector	INW103-102-023	1
9A	KE601374	1/2" X 1/2" Straight Push-on Hose Connector	INW103-102-023	1
9B	KE601378	Adaptor	INW109-102-023	2
10	KE55480	Air Manifold	PRG 1/4 - 5/32	3
11	KE601379	Pump Cylinder Flow Control	104104-F04	2
12	KE54296	Mounting Nuts	104094	2
13	KE54297-1	Selector Valve (Man.- Auto)	2.304 MB CU	1
14	KE54299-1	Selector Knob	RM 413N	1
15	KE54288	Shuttle Valve - Humphrey Part	S125	1
16	KE603776	3/8 X 2" Brass Nipple	113-C2	1
17	FI05274	Push-in Elbow, 5/32 X 1/8	IN109-532-020	2
18	KE54301	1/4" Urethane Clear Tube	UB 1/4-C	*
19	KE54869	3/8" Urethane Clear Tube	UB 3/8-C	*
20	KE55481	1/2" Urethane Clear Tube	UB 1/2-C	*
21	KE54342-1	5/32 Urethane Black Tube	UB 0425-B	*
22	KE54342	5/32 Urethane Clear Tube	UB 0425-C	*
23	KE54301-1	1/4" Urethane Black Tube	UB 1/4-B	*
24	FA11058	6-32 X 7/8" Lg. Machine Screw		6
25	FA95091	Hex Socket Shoulder Screw 8-32 X 1 1/4		3
26	FA11145	10-32 X 3/8" Lg. Machine Screw		4
27	FA11256	1/4-20 X 1/2" Lg. Machine Screw		2
28	KE601396	90 Degree Elbow	116C	2
29	KE601430	Hex Nipple 1/8" Npt	122-A	1
42	KE54281	3/8 Air Unit Frl	NAC3000-N03-3G	1

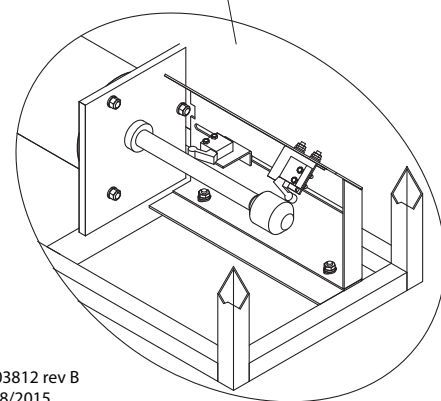


KE0170-2 rev E
03/19/2013

30	KE53270	Nozzle Cylinder	4-D-3	1
31	KE53014-1	Flapper Cylinder		1
32	KE54287	Start Switch	41-P	1
33	KE54286	Air Limit Switch With Actuator	31-P + 34-C	2
34	KE53366	3/8" Bulkhead Fitting	1495-C	2
35	FI05262	Quick Disconnect Body	DC-2103	1
36	FI05262-1	Quick Disconnect Plug	DCP-2144	1
37	FI05276	1/4 Tube X 90° X 1/8 Npt Elbow	6520-04-02	2
38	FI05277	1/4 Tube X 90° X 1/4 Npt Elbow	6520-04-04	2
39	KE601381	1/2" Tube X 3/4" Straight	6510-08-04	2
40	KE95453	Flow Control Label		1
41	KE601373	Straight Tube Fitting 1/2" X 1/2"	1N103-102-022	2
17	FI05274	Push-in Elbow, 5/32 X 1/8	IN109-532-020	7



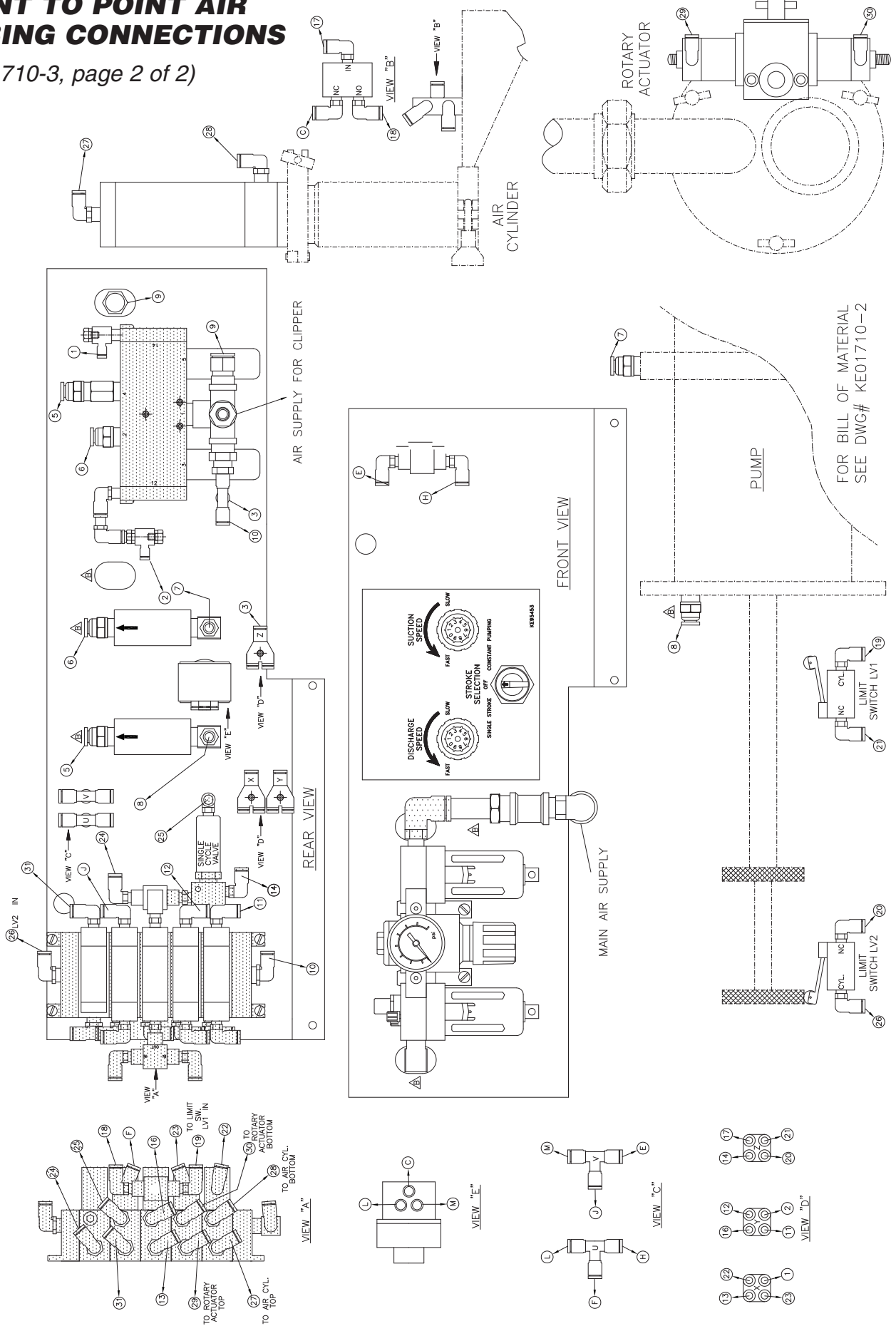
50	FA31030	Split Lockwasher #5/16 SS		6
51	KE603979	Front Panel		1
52	KE003810	Air Switch Bracket Ass'y RH.		1
53	KE003809	Air Switch Bracket Ass'y LH.		1
54	KE54286	Air Limit Switch Ref. Only		0
55	KE603983	Knob		1
56	FA30505-5	Flat Lockwasher #5/16 SS		2
57	FA21024	5/16-18 Hex Nut Ss		2
58	FA95108	10-24 X 1 1/4 Pan Phil 18-8 SS		4
59	FA21006	10-24 Hex Nut 18-8 SS		4
60	FA31027	#10 Lockwasher 18-8 SS		4
61	FA31029	Split Lock Washer 1/4"		14
62	FA21008	Hex Nut #1/4-20 SS		8
63	FA30505-2	#10 Flat Washer SS		1



KE003812 rev B
10/28/2015

POINT TO POINT AIR TUBING CONNECTIONS

(KE01710-3, page 2 of 2)

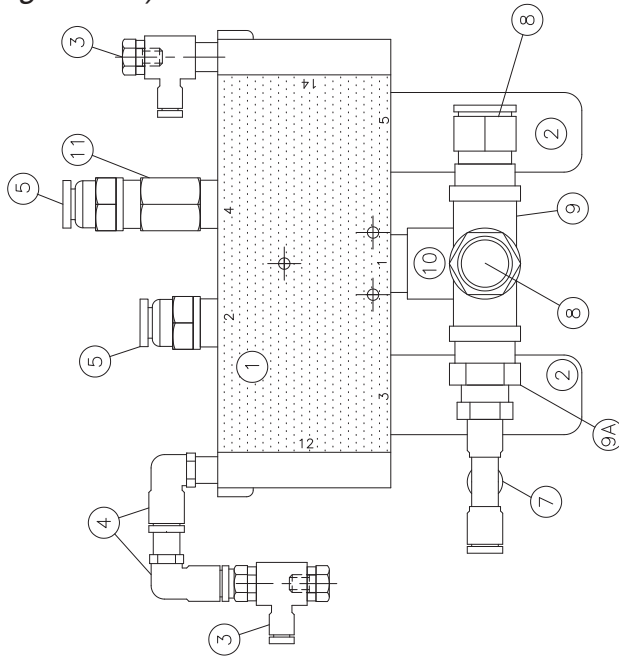


FOR BILL OF MATERIAL SEE DWG# KE01710-2

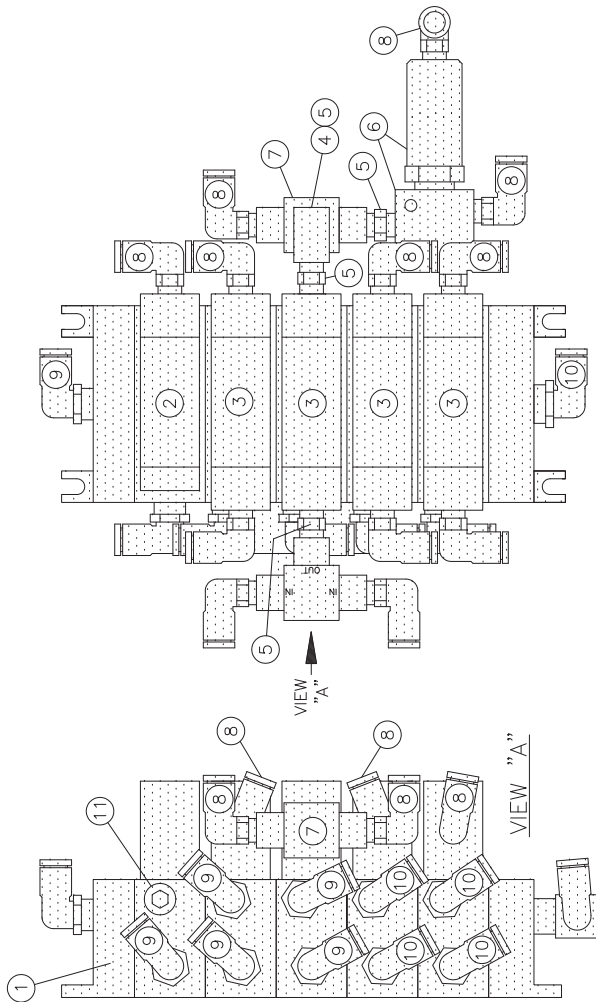
16 KE003776 | 3/8 x 2" BRASS NIPPLE | 113-C2 | 1 | NOTE: ITEMS 34, 35, 36 AND 41 NOT SHOWN

PUMP VALVE ASSEMBLIES

(KE01710-4, page 2 of 2)



ITEM #	PARTS #	DESCRIPTION	MANUFACTURE #	QTY.
1	KE54291	PUMP VALVE	L23PP4520	1
2	KE54346	MUFFLER	SR03	2
3	F105276	PUSH-IN FLOW CONTROL ELBOW 1/4 X 1/8	IN136C-532-020	2
4	KE55472	1/8" STREET ELBOW	116-A	2
5	KE601373	1/2" PUSH IN HOSE CONNECTOR	INW103-102-022	2
7	KE55475	MALE RUN TEE 3/8 NPTX 1/4 OD. TUBE	IN109-104-022	1
8	KE601374	PUSH IN STRAIGHT 1/2 X 1/2	INW103-102-023	2
9	KE601375	1/2" BRASS CROSS	102-D	1
9A	KE601376	1/2" X 3/8" BUSHING	110-DC	2
10	F105282	3/8 FORGED 90° MALE ELBOW	99-C	1
11	KE601377	M/M STRAIGHT CONNECTOR	120-CC	1



ITEM #	PARTS #	DESCRIPTION	MANUFACTURE #	QTY.
1	KE54343	5 STATION VALVE MANIFOLD	HC95001A	1
2	KE54289	VALVE #1 (CONTROL VALVE)	HA-240-4A	1
3	KE54290	VALVE #2,3,4,5 (SELECTOR1, SELECTOR2, FLAPPER, NOZZLE)	HA-240-4A2	4
4	KE55472	1/8" STREET ELBOW	116A	4
5	F105271-2	1/8 BRASS HEX. NIPPLE	122-A	2
6	KE54292	ONE SHOT VALVE	31-P + 341-AR	1
7	KE54288	SHUTTLE VALVE	S-125	3
8	F105274	PUSH-IN ELBOW, 5/32 X 1/8	IN109-532-020	12
9	F105275	PUSH-IN ELBOW, 5/32 X 1/4	IN109-532-021	6
10	F105277	PUSH-IN ELBOW, 1/4 X 1/4	IN109-104-021	5
11	KE53360	1/4 HEX. PLUG.	118-B	1

16	KE54345	3 WAY SPOOL VALVE	0669-10-18-MF	
17	F105274	5/32" TUBE TO 1/8" NPT MALE PUSH-IN FITTING (ELBOW)	3109-04-11	22
18	F105275	5/32" TUBE TO 1/4" NPT MALE PUSH-IN FITTING (ELBOW)	3109-04-14	7
19	F105276	1/4" TUBE TO 1/8" NPT MALE PUSH-IN FITTING (ELBOW)	3109-56-11	4
20	F105277	1/4" TUBE TO 1/4" NPT MALE PUSH-IN FITTING (ELBOW)	3109-56-14	6
21	F105279	5/32" TUBE TO 1/4" NPT MALE PUSH-IN FITTING (STRAIGHT)	3175-04-13	3
22	F105280	5/32 x 5/32 x 5/32 TUBE PUSH-IN FITTING (TEE)	3104-04-00	3
23	KE53359	1/8" BRASS HEX PLUG	118-A	
28	KE53351	1/8" EXTRUDED 90° BRASS ELBOW	100-A	1
29	F105030	3/8" EXTRUDED 90° BRASS STREET ELBOW	116-C	5
30	F105282	1/2" EXTRUDED 90° BRASS STREET ELBOW	116-D	3
31	F105270	1/4" EXTRUDED MALE BRASS TEE	106-B	1

SUPPLIED ITEMS

ITEM #	DESCRIPTION	QTY.
FA05002-2	O-RING; FDA BUNA-N (2-164)	5
FA05002-24	O-RING; BUNA-N (A-111)	4
FA05002-26	O-RING; VITON (A-434)	2
FA05002-3	O-RING; 1.5 ID X 1.75OD FDA BUNA-N (A-222)	2
FA05002-5	O-RING; FDA BUNA-N (A-434)	2
FA05002-7	O-RING; 1.5"ID X 1-11/16 OD BUNA-N (A-128)	4
FA95100	HEX HEAD BOLT; S.S. M12 X 35mm	1
FI05220-2	HOSE CLAMP; HAS-32	1
FI05300	ELBOW; 2", 45DEG, 304	1
KE01316-3	VERTICAL PIPE MFS C/W PAN FILLER	1
KE01333	CLEANING HOSE ASSY MFS	1
KE01387	LABEL DISPENSER; MFS	1
KE01518	AIR HOSE ASS'Y; CLIPPER	1
KE01749-2	HOSE; 3" X 3FT BEVEL SEAT ACME NUTS BOTH END	1
KE01749-3	HOSE; 3"X3 FT BEVEL SEAT, ACME NUT 1END, ACME THRD	1
KE01750	AIR SUPPLY HOSE ASSY MFS (SERVICE PART KE01750-1)	1
KE01751	BRACKET ASSY KIWI PRINTE RMTG	1
KE01776	BRUSH KIT MFS	1
KE01947	LUG WRENCH (MFS)	1
KE52158	WRENCH; 2" ACME NUT	1
KE52159	WRENCH; 3" ACME NUT	1
KE53056	SPRING	1
KE54167	GREASE; FOOD GRADE (MFS-X PACKAGE)	1
KE54810-2	GASKET; 2 BEVEL SEAT TEFLON 40 BS-G-2APEX	4
KE54810-3	GASKET; 3 BEVEL SEAT	6
KE55336-6	ELBOW ADAPTOR; 3"ACME/NUT	1
KE603751	WASTE BASKET MFS-Y, -E 2.0 COM PROD #FG295700 GRAY	2
SE95019	SERVICE MANUAL, MFS-X	1

SPARE PARTS LIST

<i>ITEM #.</i>	<i>DESCRIPTION</i>	<i>QTY.</i>	<i>QTY.</i>
		<i>DOMESTIC</i>	<i>OVERSEAS</i>
<u>Consumables</u>			
KE54810-3	Gasket, 3", Food Hose	10	50
KE54810-2	Gasket, 2", Piping Assembly	10	50
KE53056	Spring, Pump Head	2	10
KE54167	Food Grade Grease	1	10
FA05002-24	"O" Ring, Flapper Valve	4	20
FA05002-3	"O" Ring, Upper Plunger Seal	10	50
FA05002-2	"O" Ring, Pump Head	10	50
FA05002-7	"O" Ring, Lower Plunger Seal	10	50
FA05002-26	"O" Ring, Product Piston Head	10	50
<u>Spare Parts</u>			
FA05002-6	"O" Ring, Rear Seal	1	2
FA05002-1	"O" Ring, Front Seal	1	2
KE01302	Lug Nut	1	2
KE54278	Removable Panel Stop	1	2
KE53266	Spring, Label Dispenser	1	2
KE53014-1	Rotary Actuator	---	1
KE01712	Air Cylinder, Discharge Head	---	1
KE01518	Hose for Clipper	---	1
KE01750	Hose for MFS to Kettle	---	1
KE54286	Air Limit Switch	---	1
KE54295	Air Flow Control	---	1
SE00090	Control Valve Assembly	---	1
SE00091	Pump Valve Assembly	---	1