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SINCE 1954

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LUBE TRUCK MANUAL

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Congratulations on purchasing a VALEW Quality Lube Truck. Your truck was designed with the highest quality materials and equipment. Many of the manufacturer warranties exceed Valew's warranty.

Included in this owner's manual are all of the manufacturer installation, operation and maintenance instructions. This will help familiarize you with your new truck, and help to ensure a long work life.

Many components on your new lube body require periodic maintenance such as lubrication, inspection, filter changes and adjustments. It is our desire that your new lube truck will provide you with years of trouble-free service.

Thank you

Valew Welding and Fabrication

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Plant
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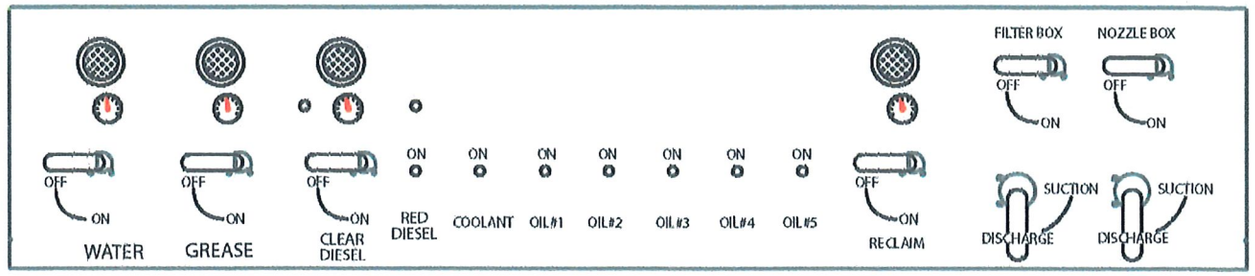
Adelanto California. 92301

844-208-2539
support@valew.com
www.valew.com

COMMON PARTS FOR LUBE TRUCK

1. 4 Product lube transfer with compressor valve - Part # RO00011
2. Samson ½" 50' water/air reel - Part # 1660
3. Samson ½" 50' oil product reel - Part # 1674
4. Samson ⅜" 50' Grease reel - Part # 1682
5. Samson ¾" to 1" 30' fuel reclaim reel - Part # 7500
6. Gardner denver blackmer coupler - Part # 712030217
7. Parker/ charlin motor for blackmer fuel - Part # TB0050AS100AAAB
8. Blackmer/ fuel air switch - Part # TX200417394
9. Apsco back door cylinders - Part # C5080
10. Back door/ Fuel air switch - Part # BAV010
11. Air solenoid switch - Part # BAV050SA
12. Control box for lube truck - Part # VQTB-LT-01
13. Eaton pump - Part # 421AK009(CW or CCW)
14. Donaldson head - Part # P163681
15. Donaldson filter - Part # P164381
16. Donaldson head double - Part # P167297
17. Donaldson filter double - Part # P165705
18. Force america spin on filter - Part # SF370-007-25-10CFR-N
19. 1" Husky fuel nozzle - Part # HU173310
20. 1" Husky swivel - Part # HU87
21. 2" Wiggans fuel receiver - Part # WIGZNC2A
22. 2" Wiggans fuel vent - Part # WIGZV10
23. 1" GPI digital meter - Part # GPI 1A31GM
24. Samson 1" diaphragm pump fuel UL listed - Part # 2836
25. Samson ¾" diaphragm pump oil/water - Part # 2833
26. Samson grease drum cover 15 gal - Part # 1936
27. Samson grease drum cover 55 gal - Part # 1938
28. Grease pump 15 gal 60-1 - Part # 332
29. Grease pump 55 gal 60-1 - Part # 334
30. Grease follower plate 15 gal - Part # 964
31. Grease follower plate 55 gal - Part # 966
32. Samson 5-1 oil pump air - Part # 347120
33. Samson standard meterd control handle digital - Part # 2165
34. Samson grease handle - Part # 11152
35. Samson filter, lubricator and regulator - Part # 984
36. Betts 3" internal valve - Part # EV46169ALTS
37. Betts 3" top air bent - Part # AVT35ALTS
38. Betts 16" off-set dome cover - Part #
39. Betts 2" aluminum dome plug - Part #
40. Western integrated 16 GPM control block - Part #
41. Western integrated 25 GPM control block - Part #
42. Truck light lube wire harness kit - Part # K02472B
43. Weldon lights 3"x 7" - Part # WEL3812-0000-33
44. Weldon lights 7"x 9" - Part # WEL7812-0000-33
45. Atlas copco LE-7 compressor block - Part # Part #
46. Premco compressor motor - Part # M300C186-D-ESPL-ZA07-29XL
47. western int. cooler - Part # ILLEC1242
48. YKDSG-01-2B2-D12-N-7090(yuken valve includind the coil) - Part #
49. YKGDM211B11 (DIN connector on top of the yuken valve) - Part #
50. HYDFXDA-LAN-12GPM (SUN flow control cartridge valve) - Part #
51. HYDFXDA-LAN-12GPM (SUN flow control cartridge valve) - Part #
52. HYDPBDB-LNN (SUN pressure reducing cartridge valve) - Part #

For more parts please visit parts.valew.com
or give us a call at 760.246.4878



PLEASE NOTE: Air compressor must be engaged and running to operate all Diaphragm pumps. Engage PTO to run all hydraulic drive pumps and compressor.

PRODUCTS

To operate the product delivery system, turn the product " ON/OFF" valve or switch to the "ON" position. The pump should cycle until the hose is pressurize. Once the nozzle is opened the pump will continue to cycle. Some dispensers have a twist lock, anti drip nozzle on the end.

- Product regulator pressure 50 psi.
- Grease regulator pressure 60 psi. Never exceed 78 psi.
- **DO NOT** over pressure the pumps. This can result in the pump malfunction or personal injury.
- Relieve resedual pressure from product hoses, heat expansion can cause leaks in the pump and/or hose reel.
- Operating pumps at a pressure higher than designed by the manufacturer can cause damage to the pump and void the warranty and possibly cause personal injury.

RECLAIM SYSTEM

To avoid accidental spill, keep valve on hose shut until in use. Select "suction" or "discharge" on both dirictional valves, Turn on product pump, open hose valve, reverse procedure to shut down system. The "nozzle box" and "filter box" features should be operated **ONLY** in the suction mode. Keep valves closed unless features is in use. Select "Suction" on both directional valves, turn on the product pump, open the "nozzle box" or "filter box" control valve until the appropriate box is empty, reverse the procedure to shut down.

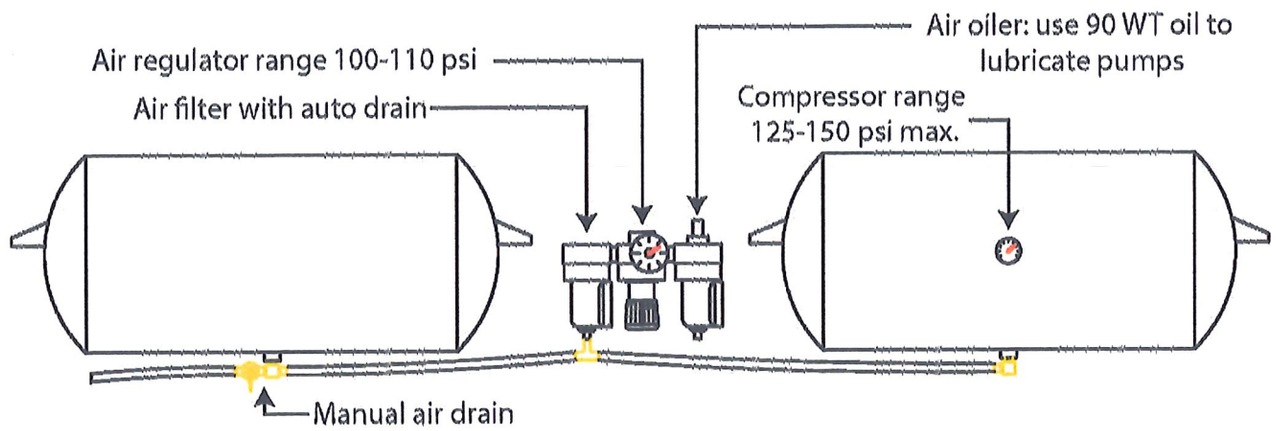
DO NOT open the "nozzle box" or "filter box" reverse in the discharge mode.

Installation of the grease pump: Insert the follower plate, place the pick up tube through the follower plate while installing the pump. Attach the air control line and the grease delivery hose securly. Unroll the hose reel when initially pumping grease, the grease flows through easier.

PRESSURE WASHER

The pressure washer is pressurized by the hydraulic pump. Engage the PTO and turn on the switch in the washer compartment to operate.

VALEW Welding Lube Body
Operating Instructions

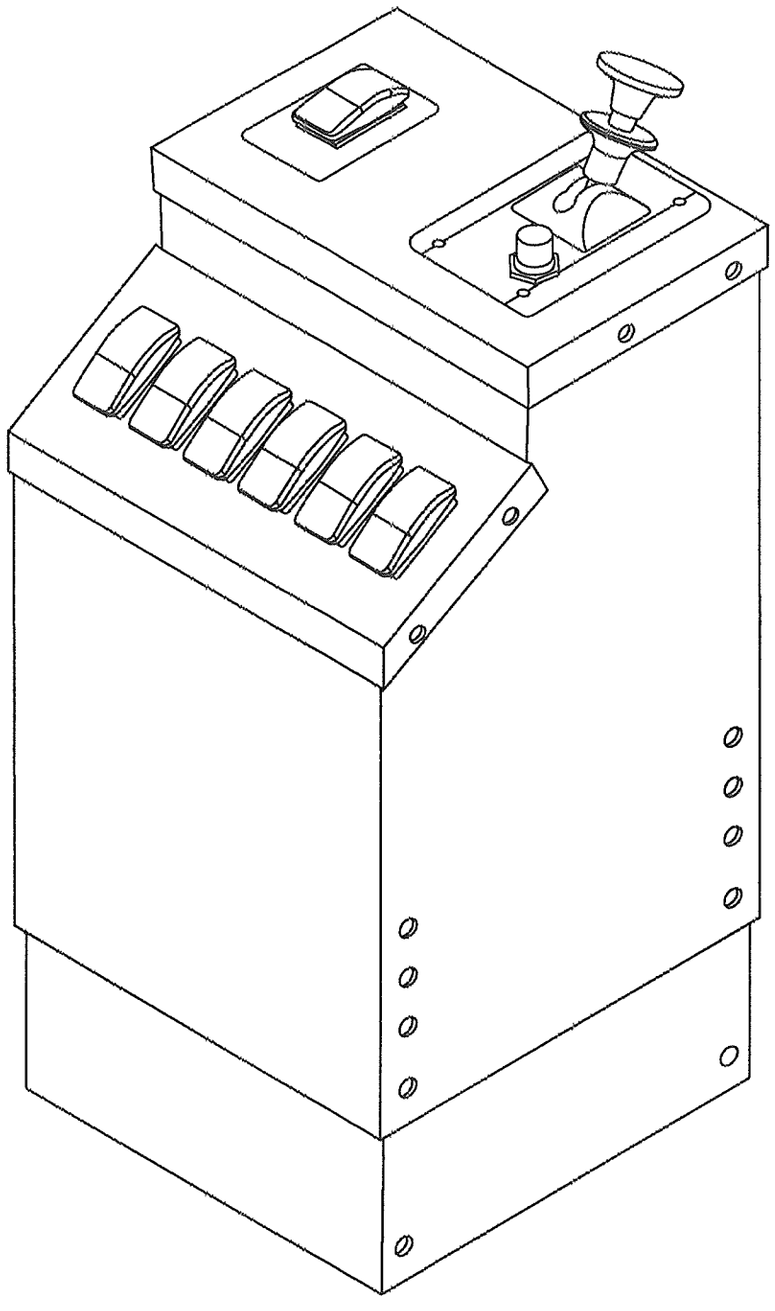


Air Compressor

- Compressor working range 125-150 psi.
- The air compressor is hydraulic powered and PTO driven. Engaging the PTO automatically powers the compressor. It is set to maintain a working pressure of 125-150 psi.The air has a water separator, regulator and self oiler. this provides clean, dry and lubricated air to all pumps.
- Air regulator working pressure 110 psi.
- Drain the water separator daily.
- Set the oiler to deliver 1 to 3 drops/minute with continuous use.
- Use a SAE 90 WT or lighter.

DIESEL

- To operate the clear diesel system, turn the diesel "ON/ OFF" Air valve to the "ON" position. The pump should cycle until the hose is pressurize. Once the nozzle is opened the pump will continue to cycle.
- The "ON/OFF" air valve also controls the diesel tank valve and vent.The "Emergency" valve overrides the "ON/OFF" valve.
- On the red diesel system, lifting the "Emergency Fuel Shut off" valve will open the diesel internal valve and the tank vent. This is neccessary for the pump to function properly.
- If the pump does not dispense fuel, check the "Emergency" valve. It should be in the up position.
- To operate "Emergency Fuel Shut Off" press the knob down.
- The "Emergency" knobs must be "up" for the fuel system to work. **DO NOT** over pressure the pumps, this can result in pump malfunction or personal injury.
- Diesel regulator pressure 30 psi.
- Operating pumps at a pressure higher than designed by the manufacturer can cause damage to the and void the warranty and possibly cause personal injury.



INSTALLING CONTROL TOWER

VALEW

INSTALLATION GUIDE

1. Place base plate on cab floor in desired location. Use it as a template to mark, cut out hole and bolt hole locations.

2. Cut holes in cab floor for routing cables, tubing, wires and mounting bolts.

Cut hole in the middle only as big as needed.

Illustrated is round cut out hole in cab floor.Non adjustable base plate shown to present bolts that mount base to the floor directly above..

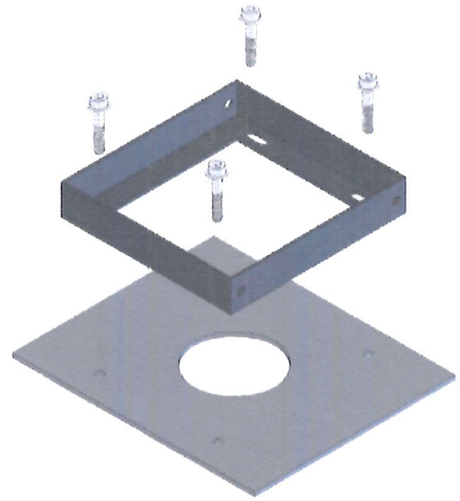
3. Bolt base plate to the cab floor with appropriate bolts (bolts not included).

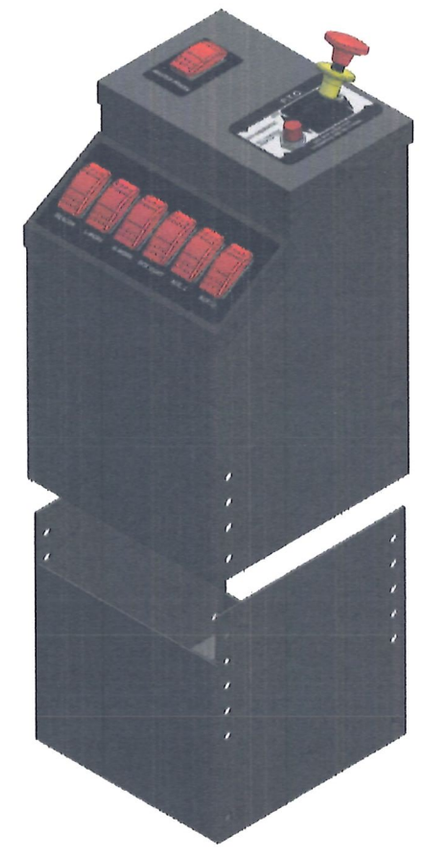
4. Install additional (PTO control) components into cover plate and mount down using supplied hardware.

5. Drop all required tubing, cable and electrical wires through the cab floor.

6. Install tower on base plate and secure in place with four (4) ¾" long, ¼"- 20 socket head cap screws and nylon locknuts. If using adjustable base, do not use tallest possible height.

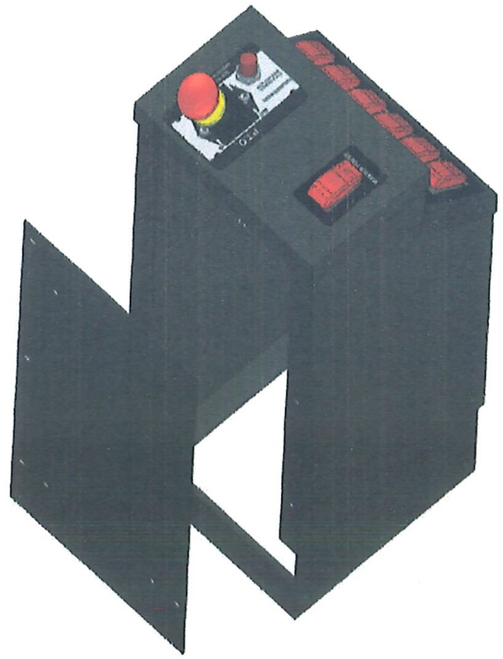
There should not be a gap between the tower and the base plate in the front of assembly.



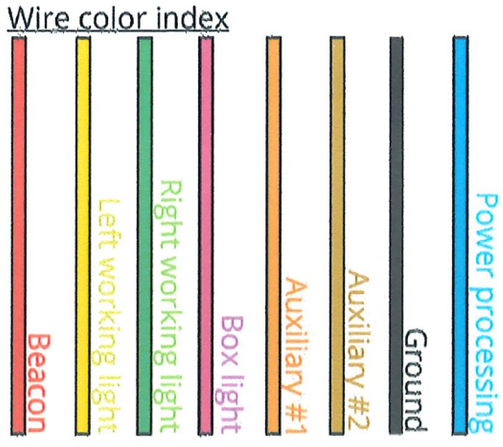


7. Attach and connect wires (see below) hoses and cables at opposite ends. Check for function of installed components.

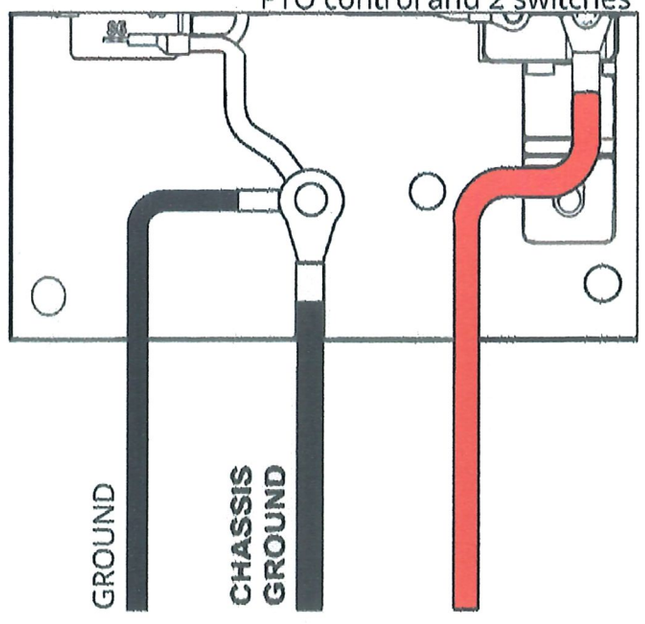
8. Install backplate and secure in place using six (6) ⅜" long, ¼"- 20 socket head cap screws with nylon patch.



WIRING CONTROL TOWER INTO TRUCK

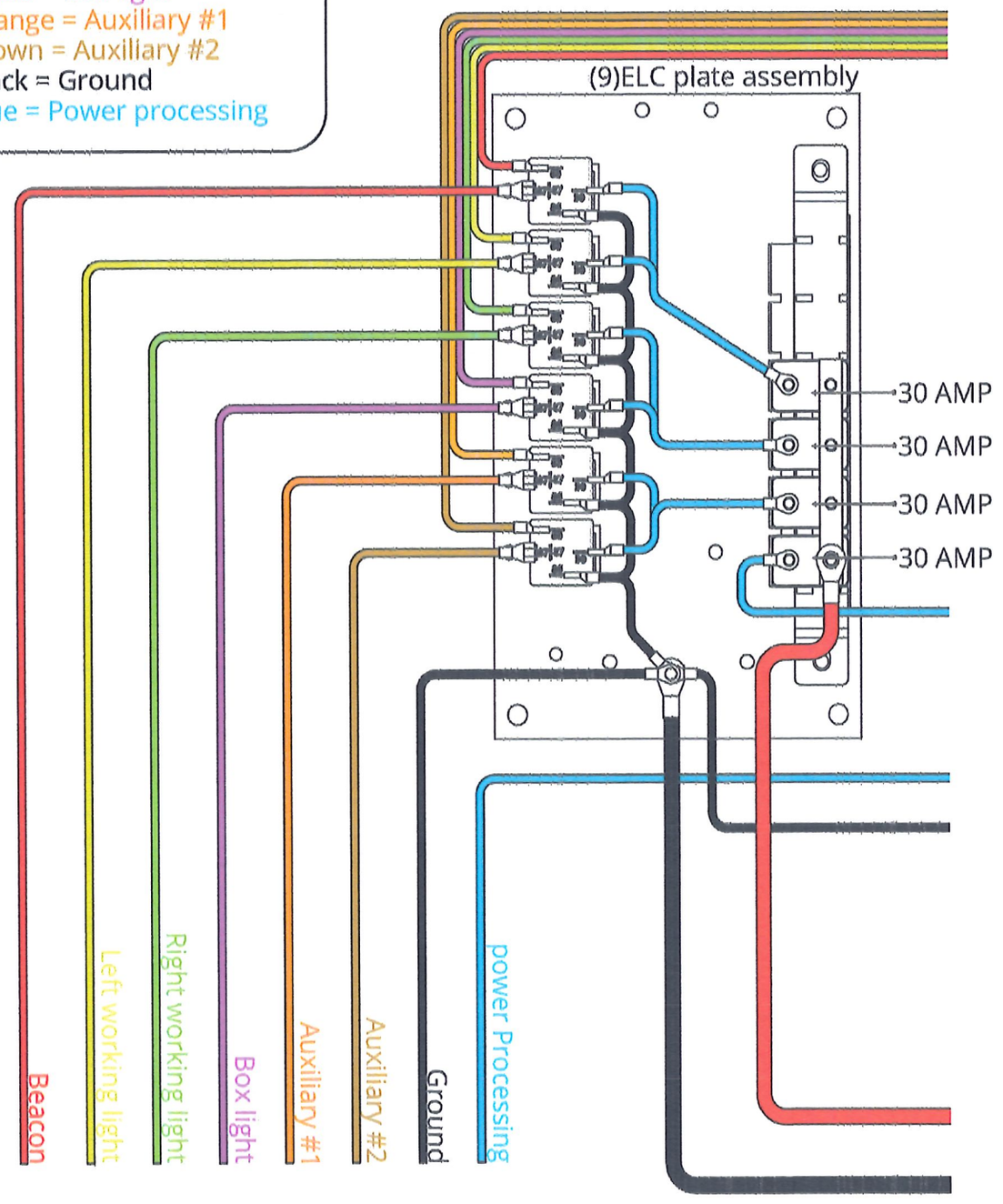


(2) IC5 top plate for joystick, PTO control and 2 switches

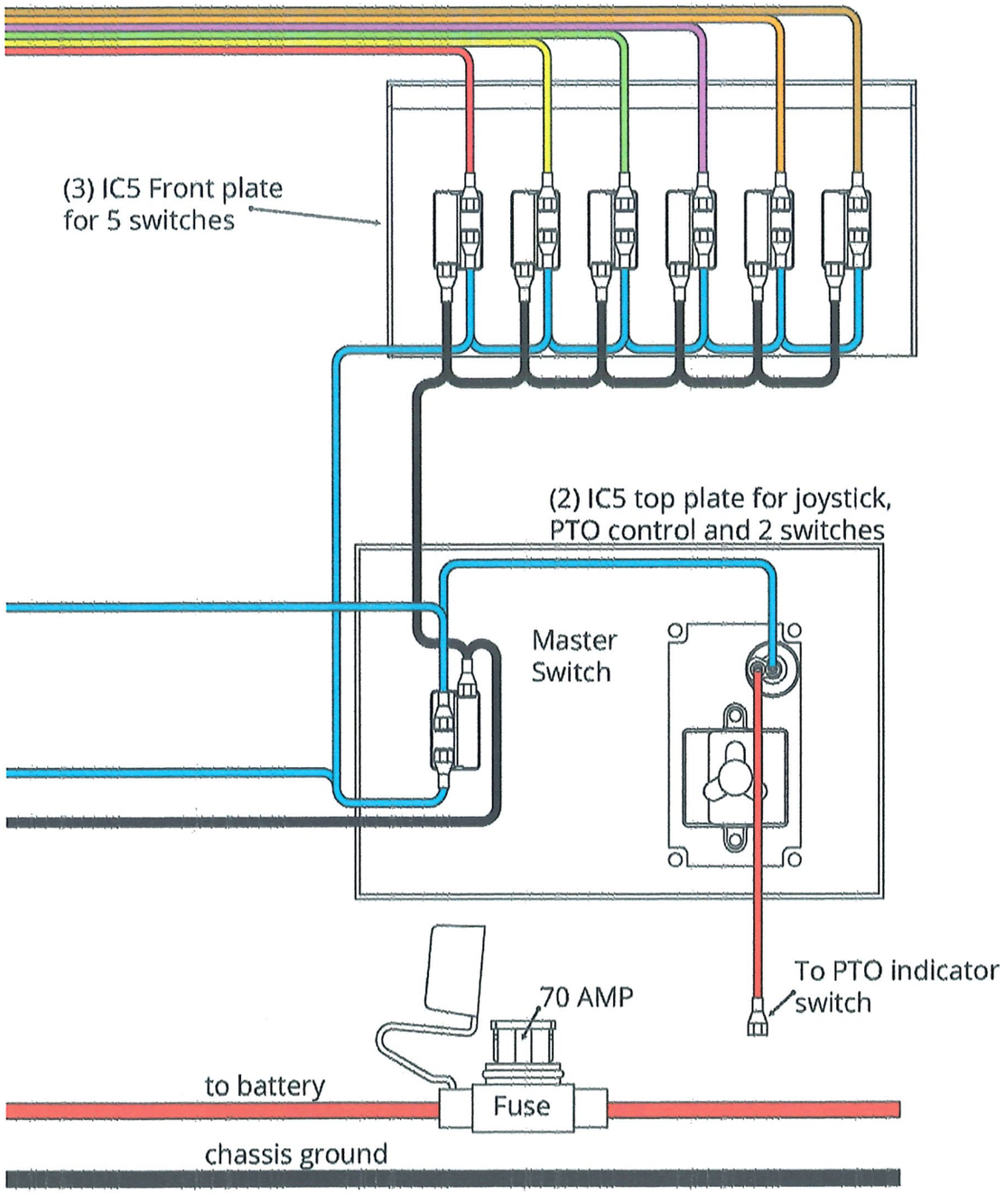


WIRE LAYOUT

RED = Beacon
YELOW =Left work light
GREEN = Right work light
Puple = Box light
Orange = Auxiliary #1
Brown = Auxiliary #2
Black = Ground
Blue = Power processing

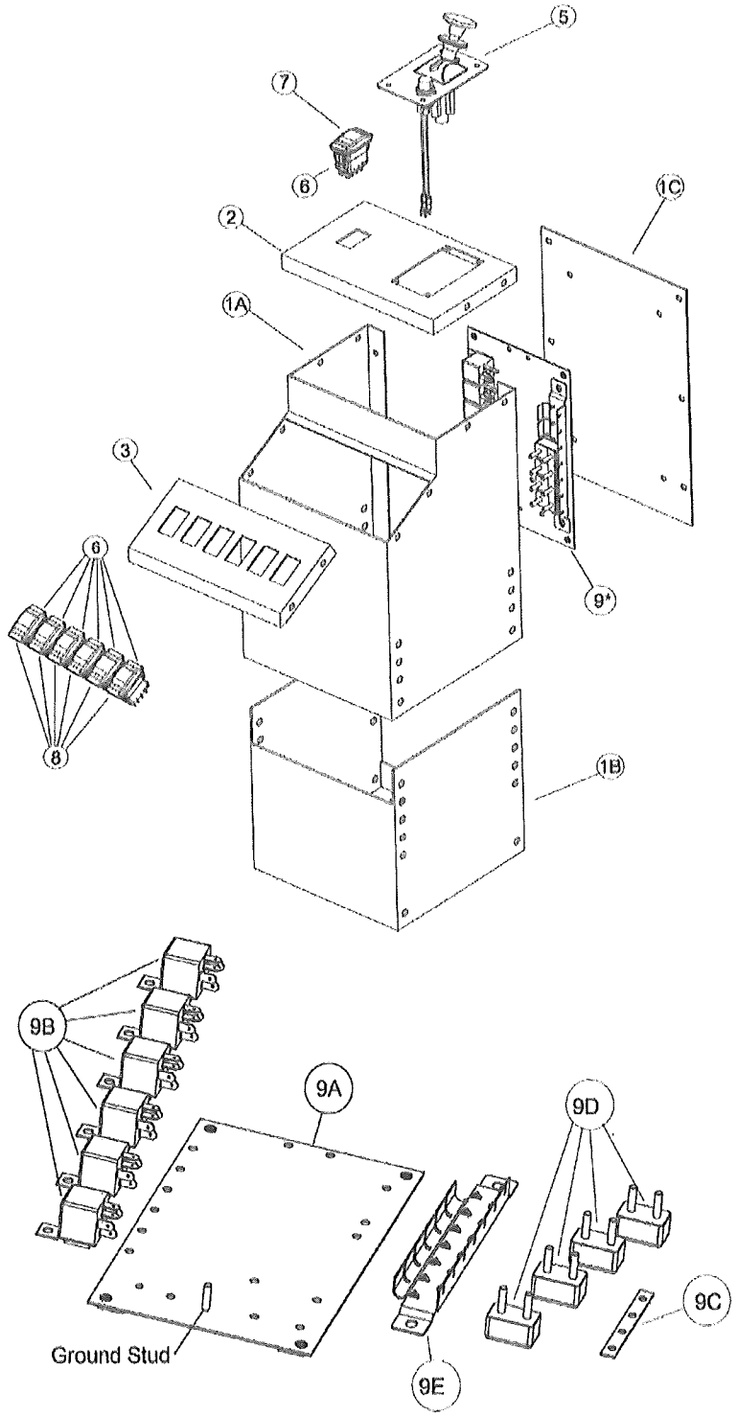


WIRE LAYOUT


(3) IC5 Front plate
for 5 switches
(2) IC5 top plate for joystick,
PTO control and 2 switches
Master
Switch
To PTO indicator
switch
70 AMP
to battery
Fuse
chassis ground

INSTALLATION GUIDE

PARTS BREAKDOWN



Parts List

Item No.	Part Number	Item Description	QTY Req.
1	IC5FA	Tower Assembly - 5 stick (Includes Items 1A,1B,1C)	1
1A	IC5FA - TOWER	Tower	
1B	IC5FA - BASE	Base	
1C	IC5 BACKPLATE	Back cover	
2	IC5TP-025	IC5 Top Plate for Joystick, PTO Control, and 2 Switches	1
3	IC5FP-010	IC5 Front Plate for 5 Switches	1
5	329648X / 75-P-13	Chelsea PTO Air Control (Furnished With PTO)	1
6	WAY 44305	Carling Rocker Switch- Base (SPST With Lamp)	7
7	WAY 44370	Carling Rocker Switch - Red Actuator With Red Lens	1
8	WAY 44364	Carling Rocker Switch - Black Actuator With Green Lens	6
9	ELC PLATE ASSEMBLY	See Detail Below	
9A	IC5ELEC	Electrical Mounting Plate	1
9B	5559A001	40 AMP Relay Cube SPDT With Bracket	6
9C	WAY 46430	30 AMP Short Stop Curcuit Breaker	4
9D	WAY 46466	6 Gang Mounting Bracket for Short Stop Breakers	1
9E	WAY 46564	Circuit Breaker Buss Bar 4 Gang	1

ECCO®

Installation and Operation Instructions
5500 Series LED Minibars

5580 Series - Reflex™ LED Minibars provide a compact yet powerful warning solution that offers the flexibility of either permanent, magnet, or vacuum-magnet mounting. All models feature 12-24 VDC operation and use LED reflector technology to maximize light output, offering multiple flash patterns including double, quad quint, rotate and random. 5587 models have no lens optics, distributing light directly from the LED reflectors while 5580 & 5585 models feature lenticular lens optics to provide more diffused light dispersion.

⚠ WARNING!

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!

Do not install and/or operate this safety product unless you have read and understand the safety information contained

1. **Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are seeking to protect.**
2. **Exercise caution when working with live electrical connections.**
3. **This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.**
4. **Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.**
5. **Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.**
6. **It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.**
7. **The use of this or any other warning device does not ensure all drivers can or will observe or react to a warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes.**
8. **This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.**

Specifications:

Size:

5580X, 5580XX, 5585X, 5585XX, 5585XXX 5587X, 5587XX, 5587XXX	16" x 9" x 2.6"
5580X-MG, 5580XX-MG, 5585X-MG 5585XX-MG, 5585XXX-MG, 5587X-MG, 5587XX-MG, 5587XXX-MG	16" x 9" x 3.0"
5580X-VM, 5580XX-VM, 5585X-VM, 5585XX-VM, 5585XXX-VM, 5587X-VM 5587XX-VM, 5587XXX-VM	16" x 9" x 31"

Available colors: CA,CB,CC,CR,CG,CAC,CAB,CAR,CRA,CAG,CRB

Weight:

Permanent mount	approx. 3.4 lbs.
Magnet Mount	approx. 4.0 lbs.
Vacuum-Magnet Mount	approx. 5.7 lbs.

Input Voltage: 12 to 24 VDC systems

Installation & Mounting:

Important! This unit is a safety device, and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

Carefully remove the Minibar and place it on a flat surface. Examine the unit for transit damage, and locate all parts. If damage is found, or parts are missing, contact the transit company or ECCO. Do not use damaged or broken parts.

Current Draw:

5580: 2.7 Amps Maximum
Maximum power consumption: 35 watts
5585: 5.1 Amps Maximum
Maximum power consumption: 66 watts
5587: 5.1 Amps Maximum
Maximum power consumption: 66 watts

Flash Rate:

See Flash Pattern Chart

Temp. Range: -30°C to +50°C

Vacuum-Magnet Mount:

The Vacuum-Magnet Mount feature includes suction cups on the bottom of the minibar, with a magnet inside of the suction cup, for a secure, temporary mount. The minibar should be placed in the center of the roof where the least amount of curvature occurs. Before installing, make sure the mounting surface is clean and there is no debris on the bottom of the minibar or on the roof of the vehicle, which could reduce the holding power of the suction cup and magnet. Place and remove the minibar without sliding to avoid scratching the paint on the vehicle. After placement, the minibar should adhere firmly to the surface. If the unit slides or moves easily, a proper installation has not been obtained. To release the vacuum, lift the tab to release the air-lock (see Figure 1). To protect the Vacuum-Magnet Mount assembly, return minibar to the box when not in use. **Do not attempt to attach the minibar to an ice-covered surface.**

Caution: When drilling into any vehicle surface, make sure the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged.

Permanent Mounting:

1. Select the desired location on a flat surface for the Minibar to be mounted. The visibility of the flash and ease of wiring access should be taken into consideration in the selection of the mounting location.
2. Remove lens screws, then remove lens. Use the four holes in the corners of the base to mark the mounting hole locations.
3. Drill the holes using a 7/32" drill size.
4. A fifth hole may be drilled for wire access.
5. Connect the power wires as shown in the wiring section (see Figure 6).
6. Mount the minibar with M5 hardware provided.

WARNING!

Maximum recommended vehicle speed for safe operation using the Vacuum Mount model is 65 mph (104 km/h), when fitted to the center of a vehicle roof of steel construction. Higher speeds could cause the mount to fail, resulting in the minibar flying off of the vehicle, which could cause damage to other vehicles, and injury or death to the passengers. The vacuum-magnet mount is not intended as a permanent mounting for the minibar. The vacuum-magnet mount unit must be mounted on a flat smooth magnetic surface (i.e. no fiberglass, ribbed style roofs, etc.). Ensure that the magnet is kept clean.

Figure 1

WARNING!

Failure to follow these instructions can result in fire or injury from excessive heat build up.
Operator is responsible for ensuring auxiliary plug fits correctly into auxiliary power plug outlet used.
For proper operation, verify auxiliary power outlet circuit is rated to supply a minimum of 10 amps. (See specifications section for rated current in amperes).
Do not exceed the current rating for the auxiliary power outlet recommended by vehicle manufacturer.
Keep auxiliary plug and outlet clean and free of debris.
Do not use the auxiliary plug when wet.
Insert auxiliary plug fully into the outlet for proper connection.
Grasp auxiliary plug, NOT cord, to remove from outlet.
Remove auxiliary plug completely from outlet when light is not in use.

Important! Disable power before wiring up the Minibar.

Note: Operating the Minibar without the lens installed on this product will result in damage that will not be covered under warranty.

Vacuum Mount Installation for 5500 Series:

1. Remove round black stickers for vacuum placement
2. Remove lens screws, then remove lens.
3. Unclip and remove wire harness
4. Position vacuum magnets, place, and tighten screws.
5. Insert pinned end of cable through the wire harness hole from the bottom of the base. Pull at least 6 inches of slack.
6. Turn pins crimp side up, and insert pins into connector as shown in Figure 3.
7. Place zip-tie 1.0" from base of the connectors shown in Figure 4. Zip-tie must not slide on cord.
8. Trim excess zip-tie.
9. Clip connector to the PCA board and pull slack until zip-tie touches base.
10. Install lens, reverse of removal.
11. Slide o-ring onto screw until it reaches head, before placing into lens. If o-rings are damaged, replace with new ones.

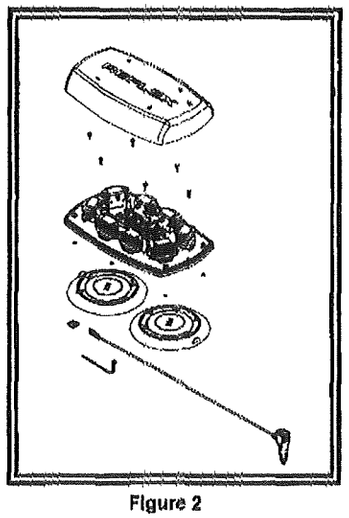


Figure 2

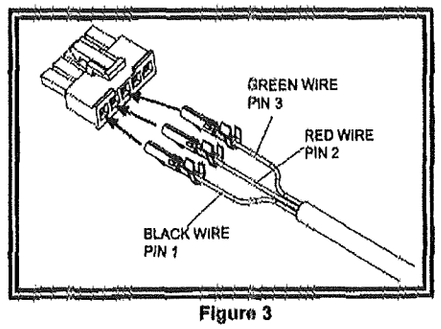


Figure 3

Magnet Mount Installation for 5500 Series:

1. Refer to the appropriate Vacuum Mount Installation for the 5500 series, steps 2 through 9, and the corresponding Figures for wiring instructions for the cord.
2. Place hex nut into the hex shaped retaining cavity on the inside of the minibar base.
3. Place an internal star washer onto the enclosed M5 x 20 hex bolt and insert the hex bolt through the hole in the cup magnet as shown. Hold the magnet/bolt assembly with the bolt extended through the magnet as far as possible and feed the hex nut and the shank of the bolt through one of the openings at the 4 corners of the underside of the minibar base. Maintain tension on the bolt/nut by holding onto the cup magnet while tightening the assembly. Repeat this process for all four corners. See Figure 5.
4. Place the adhesive magnet covers over the magnets.
5. Replace the lens.

NOTE: Operating the vehicle without the outer lens installed on the product may result in damage that will NOT be covered under warranty.

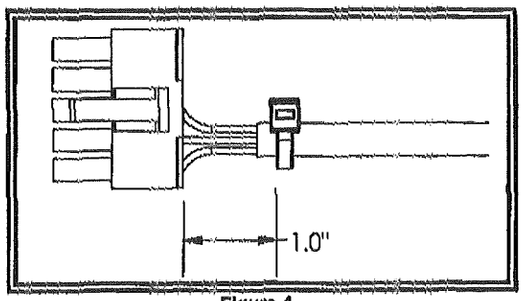


Figure 4

Note: The Magnet Mount is not recommended for use on a moving vehicle, nor is it intended as a permanent mount for the light. Long duration usage of the magnet in the presence of moisture will cause the steel to rust.

Wiring:

The wiring for the permanent mount minibar is as shown in Figure 6. All wiring should be a minimum of 18AWG. The positive line must have a 5 amp fuse, as shown. A switch may be used to control the on/off function.

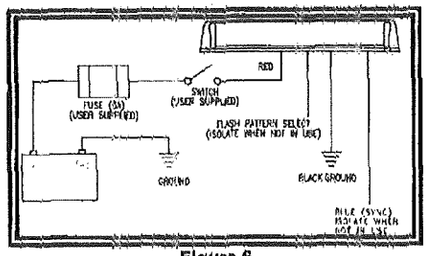


Figure 6

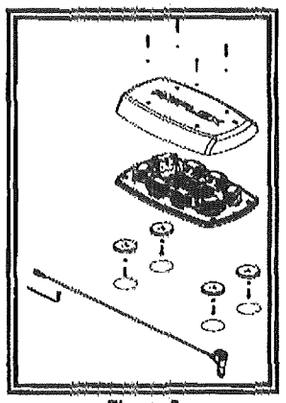


Figure 5

Flash Mode Selection:

Flash patterns can be selected on permanent mount minibars by touching the yellow wire to the red power wire for less than a second. Contacting the yellow and red wires for longer than a second toggles to the preceding flash pattern. The VM models have flash pattern select via a momentary switch on the cigarette plug.

Flash Pattern Syncing:

The 558i permanent mount models sync with other compatible ECCO products via the blue wire:

1. Determine the desired style of flash pattern for each unit and set each unit individually (without the BLUE wires connected together) to avoid confusion. It is also strongly recommended that the same style of flash pattern be used on all units to produce the most effective warning pattern. (NOTE: Phases A and B for each style of flash pattern in the table denote the relative timing between units connected in a synchronizing installation. To operate simultaneously, each unit must be set to the same phase (A + A or B + B); to operate alternately, units must be set to have the opposite phase (A + B or B + A)).
2. Connect the BLUE (SYNC) wires together and check that the units are flashing in a synchronized manner as expected. If a pattern on one module appears to be wrong, the YELLOW (PATTERN SET) wire can be used to cycle forward or backward on that individual unit until the correct pattern is selected. Note: This will only change the pattern in the one unit and will not affect the other units connected to the BLUE (SYNC) wire.
3. If the blue wire is unused, leave unconnected and insulated.

Flash Pattern Chart, Tabla de Patrones de Intermitencia, Flash Graphique de Motif

Sequence	Description	FPM	Phase	SAE J845							CAT 13				
				558OA	558OCA	5585A	5587A	5585CA	5585CB	5585CC	5585CR	5585A	5585CA	5587CA	5585CB	5585CR
1	Quad (Default)	75	A	CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
2	Quad	75	B	-	-	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
3	Double	75	A	CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
4	Double	75	B	-	-	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
5	Fast Double	150	A	CLASS 2	CLASS 2	-	-	-	-	-	-	-	-	-	-	-
6	Fast Double	150	B	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Slow Quad	65	A	CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
8	Slow Quad	65	B	-	-	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
9	Slow Double	65	A	CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
10	Slow Double	65	B	-	-	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
11	Quint-hold	75	A	CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
12	Quint-hold	75	B	-	-	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS E	CLASS E	CLASS E	CLASS E	CLASS E
13	Burst	75	A	CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	-	-	-	-	-
14	Burst	75	B	-	-	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	-	-	-	-	-
15	Quad, Alternate Side-to Side	150		CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	-	-	-	-	-
16	Quad, Diagonal Alternate	150		-	-	-	-	-	-	-	-	-	-	-	-	-
17	Double, Alternate Side-to-Side	150		CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	-	-	-	-	-
18	Double, Diagonal Alternate	150		-	-	-	-	-	-	-	-	-	-	-	-	-
19	Quint-hold, Alternate Side-to-Side	150		CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	-	-	-	-	-
20	Quint-hold, Diagonal Alternate	150		-	-	-	-	-	-	-	-	-	-	-	-	-
21	Fast Rotate	120		CLASS 2	CLASS 2	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	CLASS 1	-	-	-	-	-
22	Rotate/Quad	150/75		-	-	-	-	-	-	-	-	-	-	-	-	-
23	Wave Rotate	70		-	-	-	-	-	-	-	-	-	-	-	-	-
24	Random			-	-	-	-	-	-	-	-	-	-	-	-	-
25	Steady			-	-	-	-	-	-	-	-	-	-	-	-	-

Manufacturer Limited Warranty and Limitation of Liability:

Manufacturer warrants that on the date of purchase, this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for thirty-six (36) months from the date of purchase.

DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS VOIDS THIS LIMITED WARRANTY.

Exclusion of Other Warranties:

MANUFACTURER MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED. THE IMPLIED WARRANTIES FOR MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE ARE HEREBY EXCLUDED AND SHALL NOT APPLY TO THE PRODUCT AND ARE HEREBY DISCLAIMED, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW. ORAL STATEMENTS OR REPRESENTATIONS ABOUT THE PRODUCT DO NOT CONSTITUTE WARRANTIES.

Remedies and Limitation of Liability:

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This Limited Warranty defines specific legal rights. You may have other legal rights which vary from jurisdiction to jurisdiction. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages.

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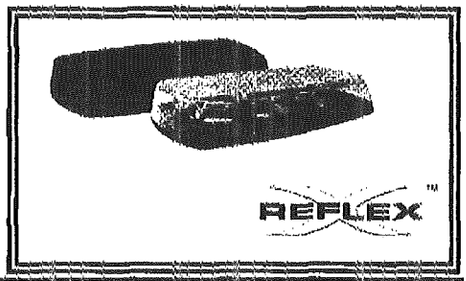
ECCO®

Instrucciones de instalación y uso, unidades Minibar LED serie 5500

Las minibarras de LED Reflex™ serie 5580 ofrecen una solución de advertencia compacta pero poderosa, con la flexibilidad de un montaje permanente, con magneto o con magneto al vacío. Todos los modelos operan a 12 o 24 VCD y usan tecnología de reflector de LED para maximizar la salida de luz y ofrecen diversos patrones de destello, incluido el doble, cuádruple,quíntuple, con rotación y aleatorio. Los modelos 5587 no tienen óptica con lentes, por lo que distribuyen la luz directamente desde los reflectores de LED, mientras que los modelos 5580 y 5585 tienen óptica con lentes lenticulares para ofrecer una dispersión de luz más difusa.



¡ADVERTENCIA!
En caso de no instalar ni utilizar este producto conforme a las sugerencias del fabricante se podrían ocasionar daños a la propiedad, lesiones graves personales o el deceso del usuario y de las personas que se busca proteger.

No instale u opere este producto de seguridad a menos que haya leído y comprendido la información de seguridad que contiene este manual.

1. **Para garantizar su seguridad y la de todos aquellos a los que desea proteger, es importante que exista una adecuada instalación, así como también una capacitación de los operadores para el uso, el cuidado y el mantenimiento de los dispositivos de alerta de emergencias.**
2. **Opere con precaución cuando trabaje con conexiones eléctricas en tensión.**
3. **El producto deber conectarse a tierra adecuadamente. Una conexión incorrecta o cortocircuito en las conexiones eléctricas puede ocasionar arcos de alta tensión lo que, a su vez, puede producir heridas o daños a su vehículo y fuego inclusive.**
4. **Para un buen desempeño del dispositivo de alerta, es de vital importancia que exista una instalación y una ubicación adecuadas. Instale este producto de modo que el rendimiento del sistema se maximice y los controles se ubiquen al alcance del operador, de esta manera éste podrá operar el sistema sin perder el contacto visual de la calzada.**
5. **No instale el producto o fije algún cable en el área de despliegue de la bolsa de aire. Los equipos que se instalen o se coloquen en el área de despliegue de la bolsa de aire pueden reducir la efectividad de la bolsa, o convertirse en un proyectil que puede ocasionar heridas e incluso la muerte. Consulte el manual de usuario del vehículo acerca del área de despliegue de la bolsa de aire. Es responsabilidad del usuario/operador determinar una ubicación adecuada para la instalación, con el fin de garantizar la seguridad de todos los pasajeros dentro del vehículo y evitar particularmente las potenciales áreas de impacto de la cabeza.**
6. **Es responsabilidad del operador del vehículo asegurarse de que todas las características del producto funcionen correctamente durante su operación. Durante su operación, el operador del vehículo debe asegurarse de que la proyección de las señales de alerta no se encuentre bloqueada por componentes propios del vehículo (es decir, baúles o puertas abiertas), personas, vehículos u otras obstrucciones.**
7. **El uso de esta o cualquier otro dispositivo de alerta no garantiza que todos los conductores puedan observar o reaccionar a las señales de advertencia. Nunca subestime el derecho de paso. Es su responsabilidad asegurarse de que pueda proceder con seguridad antes de ingresar en una intersección, conducir en contra del tráfico o a alta velocidad, y caminar por o alrededor de carriles de circulación.**
8. **Este equipo debe operarse solo por personal autorizado. El usuario es responsable de comprender y obedecer todas las leyes con respecto a los dispositivos de señales de alerta. Por lo tanto, el usuario debe revisar todas las leyes y regulaciones aplicables tanto las correspondientes a la ciudad como las estatales y federales. El fabricante no asume ninguna responsabilidad por la pérdida como resultado del uso del dispositivo de alerta.**

Especificaciones:

Tamaño:

5580X, 5580XX, 5585X, 5585XX, 5585XXX 5587X, 5587XX, 5587XXX	(15 pulg. x 9 pulg. x 2,5 pulg.)	(38,1 cm x 22,8 cm x 6,3 cm)
5580X-MG, 5580XX-MG, 5585X-MG , 5585XX-MG, 5585XXX-MG, 5587X-MG, 5587XX-MG, 5587XXX-MG	(15 pulg. x 9 pulg. x 3,0 pulg.)	(38,1 cm x 22,8 cm x 7,9 cm)
5580X-VM, 5580XX-VM, 5585X-VM, 5585XX-VM, 5585XXX-VM, 5587X-VM 5587XX-VM, 5587XXX-VM	(15 pulg. x 9 pulg. x 3,1 pulg.)	(38,1 cm x 22,8 cm x 7,9 cm)

Colores disponibles: CA,CB,CC,CR,CG,CAC,CAB,CAR,CRA,CAG,CRB

Peso:
Montaje permanente
aprox. 1,6 kg. (3,4 libras)
Montaje magnético
aprox. 1,8 kg. (4 libras)
Montaje de vacío magnético
aprox. 2,6 kg. (5,7 libras)

Tensión de entrada:
Sistemas de 12 a 24 V CC

Consumo de corriente:
5580: 2,7 amperes máxima
Consumo máximo de energía: 35 vatios
5585: 5,1 amperes máxima
Consumo máximo de energía: 68 vatios

Velocidad de destello:
Consulte la tabla de patrones de intermitencia

Rango de temp.: -30°C a +60°C

Instalación y montaje:

¡Importante! Esta unidad es un dispositivo de seguridad y debe conectarse a su propia alimentación con fusible, para garantizar una operación continua en el caso de que falle cualquier otro accesorio eléctrico.

Retire la Minibar con cuidado y colóquela sobre una superficie plana. Examine la unidad para detectar si se produjeron daños durante el traslado y ubique todas las piezas. Si se encuentran daños o si faltan piezas, comuníquese con la empresa de transporte o con ECCO. No utilice piezas dañadas o rotas.

¡Precaución! Al perforar cualquier superficie del vehículo, asegúrese de que no haya cables eléctricos, mangueras de combustible, tapicería, etc. en el área que pudiesen dañarse.

Montaje permanente:

1. Seleccione la ubicación de montaje deseada para la Minibar sobre una superficie plana. Al seleccionar la ubicación del montaje se deben tener en cuenta la visibilidad de la luz intermitente y la facilidad de acceso al cableado.
2. Desatornille el lente de la base de la Minibar. Utilice los cuatro orificios de las esquinas de la base para marcar las ubicaciones de los orificios de montaje.
3. Perfore los orificios con un taladro de 5,85 mm (7/32 pulg.).
4. Se puede perforar un quinto orificio para el acceso del cable.
5. Conecte los cables de alimentación como se indica en la sección de cableado (vea la figura 6).
6. Realice el montaje de la Minibar con los herrajes M5 provistos.

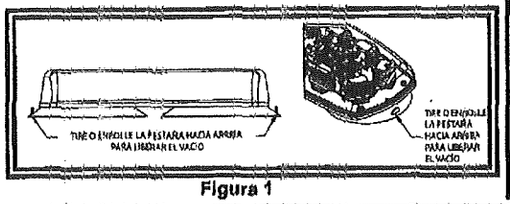


Figura 1

Montaje de vacío magnético:

La característica de montaje de vacío magnético incluye ventosas de succión en la parte inferior de la Minibar, con un imán dentro de la ventosa para lograr un montaje temporario y seguro. La Minibar debe colocarse en el centro del techo donde se produce la menor cantidad de curvatura. Antes de la instalación, asegúrese de que la superficie de montaje esté limpia y que no haya residuos en la parte inferior de la Minibar ni sobre el techo del vehículo, lo que podría reducir el poder de sujeción del imán y de la ventosa de succión. Coloque y retire la Minibar sin deslizarla para evitar rayar la pintura del vehículo. Luego de ubicarla, la Minibar debe adherirse firmemente a la superficie. Si la unidad se desliza o se mueve con facilidad, no se ha logrado una instalación correcta. *Para liberar el vacío, levante la pestaña para liberar la cámara de aire* (vea la figura 1). Coloque la Minibar en la caja cuando no la utilice para proteger el conjunto de montaje de vacío magnético. **No intente colocar la Minibar sobre una superficie recubierta de hielo.**

¡ADVERTENCIA!

La velocidad máxima sugerida para el vehículo para un uso seguro del *modelo con montaje en vacío es de 65 mph (104 km/h)* cuando está colocada en el centro del techo de un vehículo de construcción de acero. Las velocidades más elevadas podrían hacer fallar el montaje desprendiendo la Minibar del vehículo, lo cual podría ocasionar daños a otros vehículos y lesiones o el deceso de los pasajeros. El montaje de vacío magnético no está diseñado para ser un montaje permanente para la Minibar. La unidad con montaje de vacío magnético debe colocarse sobre una superficie magnética suave y plana (es decir, que no sean techos de fibra de vidrio, estriados, etc.). Asegúrese de que el imán se mantenga limpio.

¡ADVERTENCIA!

El no cumplimiento con estas instrucciones puede ocasionar incendios o lesiones a causa de la excesiva acumulación de calor.
El operador tiene la responsabilidad de asegurarse de que el enchufe auxiliar se adapte correctamente al tomacorrientes auxiliar utilizado.
Para que el funcionamiento sea apropiado, verifique que el circuito de salida de la alimentación auxiliar tenga un valor nominal de alimentación mínima de 10 amperes. (Consulte la sección de especificaciones para la corriente nominal en amperes).
No exceda el valor nominal de corriente para el enchufe de alimentación auxiliar que sugiere el fabricante del vehículo.
Mantenga limpia, y sin residuos, el enchufe y la salida auxiliar
No utilice el enchufe auxiliar si está mojado.
Inserte completamente el enchufe auxiliar en el tomacorrientes para una correcta conexión.
Sujete el enchufe auxiliar, NO el cable, para extraerlo del tomacorrientes.
Extraiga por completo el enchufe auxiliar del tomacorrientes cuando no utilice la luz.

¡Importante! Desconecte la energía antes de cablear la Minibar.

Nota: El uso de la Minibar sin el lente instalado en este producto ocasiona un daño que no se encuentra cubierto por la garantía.

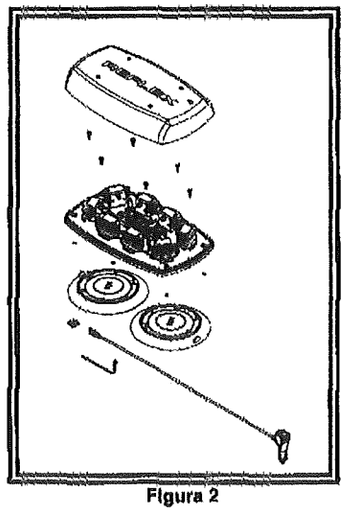


Figura 2

NOTA: El uso del vehículo sin el lente exterior instalado en el producto puede ocasionar un daño que NO se encuentra cubierto por la garantía.

Instalación con montaje en vacío para la serie 5500:

1. Retire los adhesivos redondos negros para colocar el vacío.
2. Extraiga los tornillos del lente y luego extraiga el lente.
3. Suelte y retire el arnés de cableado.
4. Ubique los imanes de vacío, coloque y ajuste los tornillos.
5. Inserte el extremo con pines del cable a través del orificio del arnés de cableado desde la parte inferior de la base. Tire al menos 15 cm (6 pulgadas) de cable suelto.
6. Gire hacia arriba el conector del pin e inserte los pines en el conector como se muestra en la figura 3.
7. Coloque la abrazadera plástica de 2,5 cm (1 pulg.) desde la base de los *conectores según se muestra* en la figura 4. La abrazadera plástica *no* debe deslizarse sobre el cable.
8. Recorte el exceso de abrazadera.
9. Sujete el conector a la placa PCA y tire el cable suelto hasta que la abrazadera plástica toque la base.
10. Instale el lente. Siga el procedimiento inverso a la extracción.
11. Deslice el o-ring sobre el tornillo hasta la cabeza antes de colocarlo en el lente. Si los o-ring están dañados, cámbielos por nuevos.

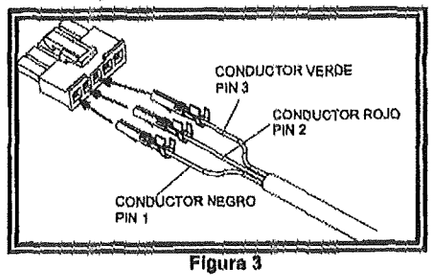


Figura 3

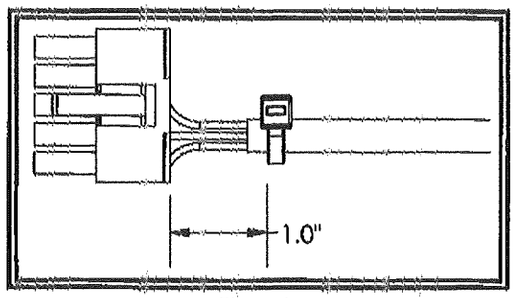


Figura 4

Instalación con montaje magnético para la serie 5500:

1. Consulte las instrucciones de cableado del cable de alimentación en instalación con montaje en vacío para la serie 5500, pasos 2 a 9, y las figuras correspondientes.
2. Coloque la tuerca hexagonal en la cavidad de retención con forma hexagonal del lado interior de la base de la Minibar.
3. Coloque una arandela de estrella interna en el perno hexagonal cerrado M5 x 20 y haga pasar el perno por el orificio del imán de la ventosa como se muestra. Sostenga el conjunto del imán-perno con el perno atravesando el imán lo más posible y coloque la tuerca hexagonal y el vástago del perno a través de uno de los orificios de las 4 esquinas del lado inferior de la base de la Minibar. Mantenga la tensión en el perno y la tuerca sosteniendo el imán de la ventosa mientras aprieta el conjunto. Repita este proceso para las cuatro esquinas. Ver la Figura 5.
4. Coloque las tapas adhesivas del imán sobre los imanes.
5. Vuelva a colocar el lente.

Nota: No se sugiere el montaje magnético para un vehículo en movimiento. Tampoco está diseñado como montaje permanente para la luz. El uso prolongado del imán si hay humedad hará que el acero se oxide.

Selección del modo de intermitencia:

Se pueden seleccionar los patrones de intermitencia en las unidades Minibar de montaje permanente tocando el cable amarillo con el cable de energía rojo durante menos de un segundo. (i) si el contacto entre el cable amarillo y el cable rojo dura más de un segundo, se pasa al patrón de intermitencia anterior. El patrón de intermitencia de los modelos de VM se selecciona mediante un interruptor de acción momentánea en el enchufe del encendedor de cigarrillos.

Sincronización del patrón de intermitencia:

Los modelos de montaje permanente 5585 se sincronizan con otros productos ECCO compatibles a través del cable azul:

1. Determine el estilo deseado de patrón de intermitencia de cada unidad y configúrelas en forma individual (sin conectar los cables AZULES entre sí) para evitar confusiones. Además, se sugiere utilizar el mismo estilo de patrón de intermitencia en todas las unidades para producir el patrón de advertencia más eficaz. (NOTA: Las fases A y B de cada estilo de patrón de intermitencia de la tabla indican la sincronización relativa entre las unidades conectadas en una instalación de sincronización. Para que funcionen en forma simultánea, cada unidad debe configurarse en la misma fase (A + A o B + B); para que funcionen en forma alterna, las unidades deben configurarse con las fases opuestas (A + B o B + A)).
2. Conecte los cables AZULES (de sincronización) entre sí y verifique que las unidades parpadean de una manera sincronizada según lo esperado. Si parece que el patrón de un módulo no es el correcto, se puede utilizar el cable AMARILLO (configurar patrón) para recorrer hacia adelante o hacia atrás los patrones en esa unidad individual hasta seleccionar el patrón correcto.
   Nota: Esto solo cambia el patrón en esa unidad y no afecta las otras conectadas al cable AZUL (de sincronización).
3. Si el cable azul no se utiliza, déjalo desconectado y aislado.

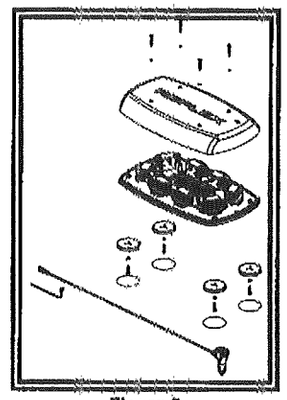


Figura 5

Cableado:

El cableado de la Minibar de montaje permanente es el que se muestra en la figura 6. Todo el cableado debe ser como mínimo 18 AWG. La línea positiva debe tener un fusible de 5 amperes, según se indica. Se puede utilizar un interruptor para controlar la función de encendido-apagado.

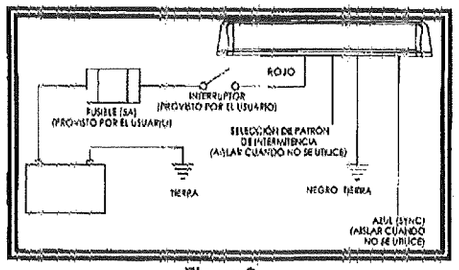


Figura 6

Limitación de responsabilidad y garantía limitada del fabricante:

El fabricante garantiza que al momento de la compra, este producto cumple con las especificaciones del fabricante para el mismo (disponibles a pedido). El fabricante garantiza además que el presente producto está libre de defectos en sus materiales y en su fabricación. Esta garantía limitada se extiende durante treinta y seis (36) meses a partir de la fecha de la compra. Pueden aplicarse otras garantías. Para más información, comuníquese con el fabricante. El fabricante, a criterio propio, repararé o cambiará todo producto que determine como defectuoso y que esté sujeto a la presente garantía limitada.

EL DAÑO A LAS PIEZAS O PRODUCTOS QUE RESULTE DE LA MANIPULACIÓN INDEBIDA, ACCIDENTES, ABUSO, USO INDEBIDO, NEGLIGENCIA, MODIFICACIONES NO APROBADAS, INCENDIOS U OTROS PELIGROS, LA INSTALACIÓN O EL *USO INCORRECTOS* O LA FALTA DE MANTENIMIENTO CONFORME A LOS PROCEDIMIENTOS DE MANTENIMIENTO QUE SE ESTABLECEN EN LAS INSTRUCCIONES DE INSTALACIÓN Y USO DEL FABRICANTE, ANULA LA PRESENTE GARANTÍA LIMITADA.

LAS REPRESENTACIONES O DESCRIPCIONES ORALES DEL PRODUCTO QUE PUEDAN HABER SIDO REALIZADAS POR *VENDEDORES, DISTRIBUIDORES, AGENTES U OTROS REPRESENTANTES DEL FABRICANTE NO CONSTITUYEN* GARANTÍAS. ESTA GARANTÍA LIMITADA NO PODRÁ ENMENDARSE, MODIFICARSE NI AMPLIARSE EXCEPTO MEDIANTE UN ACUERDO ESCRITO FIRMADO POR UN REPRESENTANTE AUTORIZADO DEL FABRICANTE QUE HAGA REFERENCIA EN FORMA EXPRESA A ELLA.

Exclusión de otras garantías: EL FABRICANTE NO OTORGA NINGUNA OTRA GARANTÍA, EXPRESA O IMPLÍCITA. MEDIANTE LA PRESENTE, SE EXCLUYEN LAS GARANTÍAS IMPLÍCITAS DE COMERCIABILIDAD O APTITUD PARA UN PROPÓSITO EN PARTICULAR, QUE NO SE APLICARÁN AL PRODUCTO. EL ÚNICO Y EXCLUSIVO REMEDIO DEL COMPRADOR CON RESPECTO AL CONTRATO, DERECHOS POR DAÑOS O CUALQUIER OTRA TEORÍA CONTRA EL FABRICANTE RELACIONADA CON EL PRODUCTO Y SU USO SERÁ LA REPARACIÓN O EL REEMPLAZO DEL PRODUCTO SEGÚN SE DESCRIBE ANTERIORMENTE.

Limitación de responsabilidad: EN EL CASO DE RESPONSABILIDAD POR DAÑOS QUE SURJAN DE LA PRESENTE GARANTÍA LIMITADA O POR CUALQUIER OTRO RECLAMO RELACIONADO CON LOS PRODUCTOS DEL FABRICANTE, CON LA RESPONSABILIDAD DEL FABRICANTE FRENTE A LOS DAÑOS, QUEDARÁ LIMITADA AL IMPORTE PAGADO POR EL *PRODUCTO EN EL MOMENTO DE LA COMPRA ORIGINAL. EL FABRICANTE NO SERÁ RESPONSABLE, BAJO NINGÚN MOTIVO,* POR EL LUCRO CESANTE, EL COSTO DE LA MANO DE OBRA NI DEL EQUIPO DE SUSTITUCIÓN, DAÑOS A LA PROPIEDAD NI POR OTROS DAÑOS ESPECIALES, RESULTANTES O INDIRECTOS EN FUNCIÓN DE RECLAMOS POR INCUMPLIMIENTO CONTRACTUAL, INSTALACIÓN INAPROPIADA, NEGLIGENCIA U OTROS, INCLUSO SI EL FABRICANTE O UNO DE SUS REPRESENTANTES HUBIESE ANTICIPADO LA POSIBILIDAD DE DICHOS DAÑOS. EL FABRICANTE NO TENDRÁ NINGUNA OTRA OBLIGACIÓN O RESPONSABILIDAD RESPECTO DEL PRODUCTO O SU VENTA, OPERACIÓN Y USO NI SUPONE O AUTORIZA QUE SE SUPONGA TODA OTRA OBLIGACIÓN O RESPONSABILIDAD RELACIONADAS CON DICHO PRODUCTO.

Esta garantía limitada define los derechos legales específicos. Es posible que tenga otros derechos legales que varían de estado a estado. Algunos estados no permiten la exclusión o limitación de daños resultantes o indirectos.

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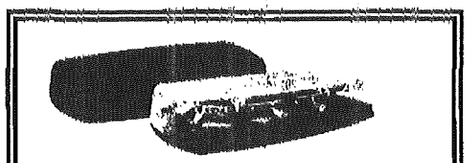
Instructions d'installation et d'utilisation
Mini-barres DEL série 5500

Les mini-barres à DEL Reflex™ de la série 5580 offrent une solution d'avertissement compacte mais puissante pouvant être fixée de manière permanente, par aimant ou par aimant à vide. Tous les modèles disposent d'une alimentation en 12-24 Vcc et utilisent une technologie de réflecteur de DEL pour maximiser le rendement lumineux, offrant plusieurs rythmes de clignotement, y compris double, quadruple, quintuple, en rotation et aléatoire. Les modèles 5587 ne comportent pas de lentille et renvoient directement la lumière depuis les réflecteurs de DEL, tandis que les modèles 5580 et 5585 comportent une lentille optique qui disperse la diffusion de la lumière.



⚠ AVERTISSEMENT!
Le non-respect des recommandations d'installation ou d'utilisation du fabricant peut entraîner des matériels, de graves blessures et/ou votre mort et celle de ceux que vous cherchez à protéger!

N'installez et/ou n'utilisez ce produit de sécurité que si vous avez lu et compris les informations de sécurité contenues dans ce manuel.

1. Une bonne installation et une parfaite connaissance de l'utilisation, de l'entretien et de la maintenance des dispositifs d'avertissement d'urgence sont essentielles pour assurer votre sécurité et celle des personnes que vous cherchez à protéger.
2. Faites preuve de prudence lorsque vous manipulez des connexions électriques.
3. Ce produit doit être correctement mis à la terre. Une mise à la terre inappropriée et/ou un court-circuitage des connexions électriques peuvent entraîner des arcs électriques de haute intensité qui peuvent, à leur tour, provoquer des blessures et/ou de graves dommages au véhicule, notamment des incendies.
4. Un placement et une installation appropriés sont indispensables au bon fonctionnement de ce dispositif d'avertissement. Installez ce produit pour que les performances de sortie du système soient maximisées et que les contrôles soient à portée de main du conducteur pour lui permettre d'utiliser le système sans quitter des yeux la zone de travail.
5. Ni l'installation de ce produit ni le passage des câbles ne doivent entraver le déploiement d'un coussin gonflable. L'équipement monté ou localisé dans la zone de déploiement d'un coussin gonflable peut réduire l'efficacité du coussin gonflable ou se transformer en projectile pouvant provoquer des blessures graves ou la mort. Reportez-vous au manuel de l'usager de la voiture pour connaître la zone de déploiement du coussin gonflable. Il est de la responsabilité de l'utilisateur/l'opérateur de déterminer un emplacement de montage adapté, garantissant la sécurité de tous les passagers du véhicule en évitant particulièrement les zones de choc potentiels au niveau de la tête.
6. Pendant l'utilisation, il incombe au conducteur du véhicule de s'assurer que toutes les fonctions de ce produit sont parfaitement opérationnelles. Lors de l'utilisation, le conducteur du véhicule doit s'assurer que la projection du signal d'avertissement n'est pas bloquée par des composants du véhicule (p. ex., coffres ouverts ou portes de compartiment ouvertes), des personnes, des véhicules ou d'autres obstacles.
7. L'utilisation de ce dispositif ou de tout autre dispositif d'avertissement ne garantit pas que tous les conducteurs verront le signal d'avertissement ni qu'ils agiront en conséquence. Ne tenez jamais la priorité pour acquise. Vous êtes tenu de vous assurer que vous pourrez agir en toute sécurité avant de vous engager dans une intersection, conduire en sens inverse de la circulation, réagir à une vitesse élevée ou marcher sur des voies de circulation ou autour d'elles.
8. Cet équipement est conçu pour n'être utilisé que par du personnel autorisé. L'utilisateur est tenu de comprendre l'ensemble des lois concernant les dispositifs d'avertissement d'urgence, et de les respecter. L'utilisateur est donc tenu de vérifier toutes les réglementations et lois municipales, nationales et fédérales applicables. La fabricant n'assume aucune responsabilité pour toute perte résultant de l'utilisation de ce dispositif d'avertissement.

Caractéristiques techniques :

Dimensions :

5580X, 5585XX, 5585X, 5585XX, 5585XX, 5587X, 5587XX,5587XXX	(15 po. x 9 po. x 2,5 pu.)
5580X-MG, 5580XX-MG 5585X-MG, 5585XX-MG, 5585XXX-MG, 5587X-MG 5587XX-MG, 5587XXX-MG	(15 po. x 9 po. x 3,0 po.)
5580X-VM, 5580XX-VM, 5585X-VM, 5585XX-VM, 5585XXX-VM, 5587X-VM, 5587XX-VM, 5587XXX-VM	(15 po. x 9 po. x 3,1 po.)

Couleurs disponibles : CA,CB,CC,CR,CG,CAC,CAB,CAR,CRA,CAG,CRB

Poids :

Montage définitif	env. 3,4 lb.
Montage magnétique	env. 4,0 lb.
Montage à vide magnétique	env. 5,7 lb.

Tension d'entrée : *Systèmes de 12 à 24 V CC*

Appel de courant :
5580: 2,7 amp maximum
Consommation maximale d'électricité : 35 watts
5585: 5,1 amp maximum
Consommation maximale d'électricité : 66 watts

Fréquence d'éclat :
Voir le tableau des modes de clignotement

Temp. Plage : -30°C à +50°C

Installation et montage :

Important! Cette unité est un outil de sécurité et doit être reliée à son propre point d'impulsion distinct muni d'un fusible pour assurer son fonctionnement continu au cas où un autre accessoire électrique tomberait en panne.

Sortez délicatement la mini-barre et placez-la sur une surface plane. Assurez-vous que l'unité n'a pas été calmée dans le transport et repérez toutes les pièces. Si vous repérez un dommage ou des pièces manquantes, contactez la société de transport ou ECCO. N'utilisez pas de pièces cassées ou abîmées.

Attention! Lorsque vous percez un trou dans une surface de véhicule, assurez-vous que cette zone est exempte de fils électriques, de canalisations d'essence, de garniture souple, etc. qui pourraient être endommagés.

Montage permanent :

1. Sélectionnez une surface de montage plane pour mini-barre à installer. La visibilité du clignotement et la simplicité d'accès du câblage doivent être prises en compte dans la sélection de la surface de montage.
2. Dévissez la lentille de la base de la mini-barre. Utilisez les quatre trous des angles de la base pour marquer les emplacements des orifices de montage.
3. Percez les trous avec une perceuse de 7/32 po.
4. Un cinquième trou peut être percé pour l'accès du fil.
5. Reliez les câbles d'alimentation comme indiqué dans la section sur le câblage (voir Figure 6).
6. Installez la mini-barre avec le matériel M5 fourni.

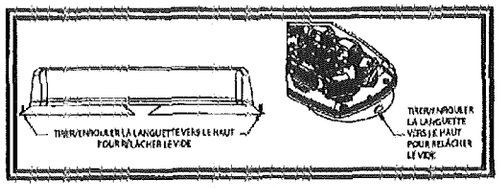


Figure 1

Montage à vide magnétique :

L'option de montage à vide magnétique inclut des ventouses sur le dessous de la mini-barre, avec un aimant dans la ventouse pour un montage temporaire sécurisé. La mini-barre doit être placée au centre du toit, à l'endroit où la courbure est la moins importante. Avant l'installation, assurez-vous que la surface de montage est propre et qu'il n'y a pas de débris sur la partie inférieure de la mini-barre ou sur le toit du véhicule, ce qui pourrait réduire le pouvoir d'adhésion de l'aimant et de la ventouse. Évitez de faire glisser la mini-barre lorsque vous l'installez ou que vous la retirez pour éviter de rayer la peinture du véhicule. Après sa mise en place, la mini-barre doit fermement adhérer à la surface. Si l'unité glisse ou se déplace facilement, l'installation n'a pas été effectuée correctement. Pour relâcher le vide, soulevez la languette pour dégager l'air emprisonné (voir Figure 1). Afin de préserver l'ensemble de montage à vide magnétique, remettez la mini-barre dans sa boîte lorsque vous ne l'utilisez pas. **Ne tentez pas de l'installer sur une surface couverte de glace.**

AVERTISSEMENT!

La vitesse maximale recommandée du véhicule pour une utilisation en toute sécurité du modèle à montage à vide est de 104 km/h (65 mph) lorsqu'il est mis en place au centre du toit en acier d'un véhicule. Si vous roulez à des vitesses élevées, la mini-barre pourrait se détacher du véhicule et endommager d'autres véhicules, et blesser voire tuer les passagers. Le montage à vide magnétique n'est pas destiné à être un montage permanent de la mini-barre. L'unité à montage à vide magnétique doit être montée sur une surface magnétique lisse et plane (pas de fibres de verre, pas de toiture ondulée, etc.). Assurez-vous de garder l'aimant propre.

AVERTISSEMENT!

Le fait de ne pas suivre ces instructions peut entraîner un incendie ou une blessure suite à une augmentation excessive de la température.
L'opérateur est chargé de vérifier si la fiche auxiliaire est bien installée dans la prise d'alimentation auxiliaire utilisée.
Pour une opération correcte, vérifiez que le circuit d'alimentation secondaire est prévu pour une alimentation de 10 ampères minimum. (Voir la section de spécifications pour les courants nominaux en ampères).
Ne dépassez pas le courant nominal recommandé par le constructeur du véhicule pour l'alimentation secondaire.
Gardez la fiche et la prise d'alimentation secondaire propres et exemptes de débris.
N'utilisez pas la fiche auxiliaire lorsqu'elle est humide.
Insérez complètement la fiche auxiliaire dans la prise pour la connecter correctement.
Saisissez la fiche auxiliaire, PAS le cordon, pour retirer la fiche de la prise.
Retirez complètement la fiche auxiliaire de sa prise lorsque vous n'utilisez pas la lumière.

Important! Coupez l'alimentation avant de procéder au câblage de la mini-barre.

Remarque : Si vous faites fonctionner la mini-barre sans la lentille installée sur ce produit, vous causerez des dommages non couverts par la garantie.

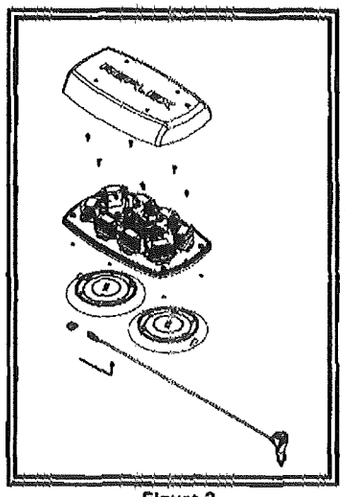


Figure 2

REMARQUE : Si vous faites fonctionner le véhicule sans la lentille externe installée sur le produit, vous causerez des dommages NON couverts par la garantie.

Installation de montage à vide pour la série 5500 :

1. Retirez les autocollants noirs ronds pour le montage à vide.
2. Retirez les vis de la lentille puis retirez la lentille.
3. Déclipsez le faisceau de câbles et retirez-le.
4. Positionnez les aimants à vide, puis placez les vis et serrez-les.
5. Faites passer l'extrémité en tête d'épingle du câble par le trou du faisceau de câbles depuis la partie inférieure de la base. Tirez au moins 6 po. de mou.
6. Tournez les broches avec le côté ondulé vers le haut, puis insérez-les dans le connecteur comme indiqué sur la figure 3.
7. Placez l'attache à glissière à 1,0 po. de la base des connecteurs indiquée à la figure 4. L'attache à glissière ne doit pas glisser sur le cordon.
8. Si l'attache à glissière est trop longue, coupez-la.
9. Clipsez le connecteur sur le panneau PCA et tirez jusqu'à ce que l'attache à glissière touche la base.
10. Installez la lentille dans l'ordre inverse à celui du retrait.
11. Faites glisser le joint torique sur la vis jusqu'à ce qu'il atteigne la tête, avant de le placer dans la lentille. Si les joints toriques sont endommagés, remplacez-les par des joints neufs.

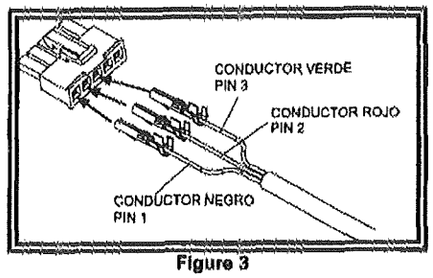


Figure 3

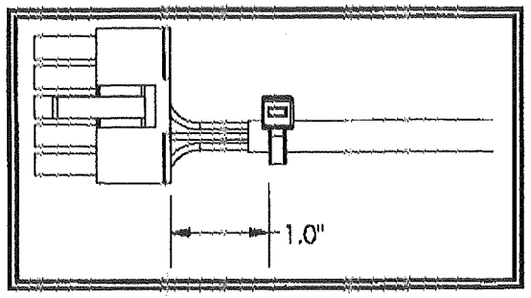


Figure 4

Installation de montage magnétique pour la série 5500 :

1. Consultez la section sur l'installation de montage à vide de la série 5500, étapes 2 à 9, et les figures correspondantes pour connaître les instructions de câblage du cordon.
2. Placez l'écrou hexagonal dans la cavité de retenue hexagonale à l'intérieur de la base de la mini-barre.
3. Placez une rondelle interne en étoile sur le bouton hexagonal M6 x 20 et insérez le bouton hexagonal dans le trou de l'aimant à ventouse comme indiqué. Tenez aussi loin que possible l'ensemble bouton/aimant avec le bouton sorti par l'aimant et alimentez l'écrou hexagonal et la tige du bouton par une des ouvertures aux 4 angles du côté inférieur de la base de la mini-barre. Maintenez la tension sur le bouton/écrou en maintenant l'aimant à ventouse tout en serrant l'ensemble. Répétez cette procédure pour les quatre angles. Voir figure 5.
4. Placez les couvercles magnétiques adhésifs sur les aimants.
5. Replacez la lentille.

Remarque : Le montage magnétique n'est pas recommandé pour une utilisation sur un véhicule en mouvement, et il n'est pas non plus destiné à un montage permanent pour la lampe. Une utilisation de longue durée de l'aimant en la présence d'humidité favorise la formation de rouille sur l'acier.

Sélection du mode clignotement :

Vous pouvez choisir les modes de clignotement sur les mini-barres à montage définitif en touchant pendant moins d'une seconde le fil jaune et le fil d'alimentation rouge. Si vous touchez les fils jaune et rouge pendant plus d'une seconde, vous reviendrez au mode de clignotement précédent. La sélection des modes de clignotement sur les modèles VM se fait via un commutateur momentané présent sur la fiche allume-cigare.

Mise en synchronisme du mode de clignotement :

Les modèles à montage définitif 5585 sont synchronisés avec d'autres produits ECCO compatibles par le fil bleu :

1. Déterminez le mode de clignotement souhaité pour chaque unité et réglez chaque unité individuellement (sans raccorder les fils BLEUS les uns aux autres) pour éviter toute confusion. Il est aussi fortement recommandé d'utiliser le même mode de clignotement sur toutes les unités pour produire le mode d'avertissement le plus efficace possible. (REMARQUE : Les phases A et B de chaque mode de clignotement du tableau désignent le minutage relatif entre les unités raccordées dans une installation de synchronisation. Pour fonctionner simultanément, chaque unité doit être réglée sur la même phase (A + A ou B + B); pour fonctionner de manière alternative, les unités doivent être réglées sur la phase opposée (A + B ou B + A)).
2. Raccordez les fils BLEUS (SYNC) les uns aux autres et vérifiez si les unités clignotent comme prévu de manière synchronisée. Si le mode d'un module semble incorrect, vous pouvez utiliser le fil JAUNE (LOT DE MODES) pour aller vers l'avant ou vers l'arrière sur cette unité individuelle jusqu'à ce que le bon mode soit sélectionné. Remarque : Ceci ne changera que le mode de cette unité et n'affectera pas les autres unités reliées au fil BLEU (SYNC).
3. Si vous n'utilisez pas le fil bleu, laissez-le isolé.

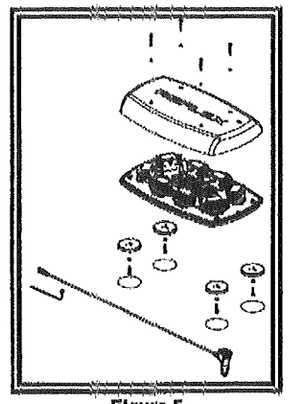


Figure 5

Câblage :

Le câblage de la mini-barre à montage définitif est tel qu'indiqué à la figure 6. Tout le câblage doit être d'au moins 18 AWG. La ligne positive doit disposer d'un fusible 5 ampères, tel que décrit. Il est possible d'employer un interrupteur pour contrôler la fonction d'allumage et d'arrêt.

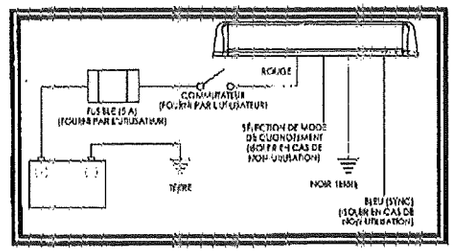


Figure 6

Garantie limitée et limitation de responsabilité du fabricant :

Le fabricant garantit qu'à la date d'achat ce produit sera conforme aux caractéristiques techniques définies par ses soins (disponibles sur demande) et qu'il est exempt de vices de fabrication et de main-d'œuvre. La présente garantie limitée est valable trente-six (36) mois à compter de la date d'achat. D'autres garanties peuvent s'appliquer. Pour plus d'informations, contactez le fabricant. Le fabricant réparera ou remplacera, à son entière discrétion, tout produit qu'il jugera défectueux, sous réserve de la présente garantie limitée.

LA PRÉSENTE GARANTIE LIMITÉE EST NULLE ET NON AVENUE EN CAS D'ENDOMMAGEMENT DE PIÈCES OU DE PRODUITS RÉSULTANT D'UNE ALTÉRATION, D'UN ACCIDENT, D'UN ABUS, D'UNE MAUVAISE UTILISATION, D'UNE NÉGLIGENCE, DE MODIFICATIONS NON AUTORISÉES, D'UN INCENDIE OU D'UN AUTRE DANGER; D'UNE MAUVAISE INSTALLATION OU D'UN FONCTIONNEMENT INCORRECT; OU ENCORE D'UN ENTRETIEN NON CONFORME AUX PROCÉDURES D'ENTRETIEN DÉFINIES DANS LES INSTRUCTIONS D'INSTALLATION ET D'UTILISATION DU FABRICANT.

LES DÉCLARATIONS OU OBSERVATIONS ORALES AU SUJET DU PRODUIT QUI POURRAIENT AVOIR ÉTÉ FAITES PAR DES VENDEURS, DES REVENDEURS, DES AGENTS OU D'AUTRES REPRÉSENTANTS DU FABRICANT NE CONSTITUENT PAS DES GARANTIES. LA PRÉSENTE GARANTIE LIMITÉE NE PEUT ÊTRE MODIFIÉE ET SON CHAMP D'APPLICATION NE PEUT ÊTRE ÉLARGI EXCEPTÉ EN VERTU D'UN ACCORD ÉCRIT SIGNÉ PAR UN REPRÉSENTANT AUTORISÉ DU FABRICANT QUI FAIT EXPRESSÉMENT RÉFÉRENCE À LA PRÉSENTE GARANTIE.

Exclusion d'autres garanties : LE FABRICANT N'ACCORDE AUCUNE AUTRE GARANTIE, EXPRESSE OU TACITE. LES GARANTIES IMPLICITES DE QUALITÉ MARCHANDE OU D'APTITUDE À UN USAGE PARTICULIER SONT EXCLUES ET NE S'APPLIQUERONT PAS AU PRODUIT. LE SEUL ET UNIQUE RECOURS DE L'ACHETEUR CONTRE LE FABRICANT CONCERNANT LE PRODUIT ET SON UTILISATION, QUEL QUE SOIT LE FONDEMENT DE RESPONSABILITÉ INVOQUÉ (RESPONSABILITÉ CONTRACTUELLE, DÉLICTUELLE OU AUTRE), SERA LE REMPLACEMENT OU LA RÉPARATION DU PRODUIT COMME INDIQUÉ CI-DESSUS.

Limitation de responsabilité : EN CAS DE RESPONSABILITÉ POUR DES DOMMAGES DÉCOULANT DE LA PRÉSENTE GARANTIE LIMITÉE OU TOUTE AUTRE RÉCLAMATION RELATIVE AUX PRODUITS DU FABRICANT, LA RESPONSABILITÉ DU FABRICANT SE LIMITERA AU MONTANT PAYÉ POUR LE PRODUIT LORS DE L'ACHAT INITIAL. LE FABRICANT NE SERA EN AUCUN CAS RESPONSABLE DU MANQUE À GAGNER, DU COÛT DE L'ÉQUIPEMENT DE SUBSTITUTION OU DE LA MAIN-D'ŒUVRE, DES DOMMAGES MATÉRIELS OU D'AUTRES DOMMAGES PARTICULIERS, INDIRECTS OU ACCESSOIRES FONDÉS SUR UNE RÉCLAMATION POUR RUPTURE DE CONTRAT, MAUVAISE INSTALLATION, NÉGLIGENCE OU TOUTE AUTRE RÉCLAMATION, MÊME SI LE FABRICANT OU L'UN DE SES REPRÉSENTANTS A ÉTÉ INFORMÉ DE L'ÉVENTUALITÉ DE TELS DOMMAGES. LE FABRICANT NE S'ACQUITTERA D'AUCUNE AUTRE OBLIGATION OU RESPONSABILITÉ QUANT AU PRODUIT OU SA VENTE, SON FONCTIONNEMENT ET SON UTILISATION, ET N'ADMET NI N'AUTORISE L'HYPOTHÈSE DE TOUTE AUTRE OBLIGATION OU RESPONSABILITÉ EN RELATION AVEC CE PRODUIT.

La présente garantie limitée vous accorde des droits juridiques spécifiques. Vous pouvez également jouir d'autres droits, lesquels peuvent varier d'un état à l'autre. Certains États n'autorisent pas l'exclusion ou la limitation de dommages indirects ou accessoires.

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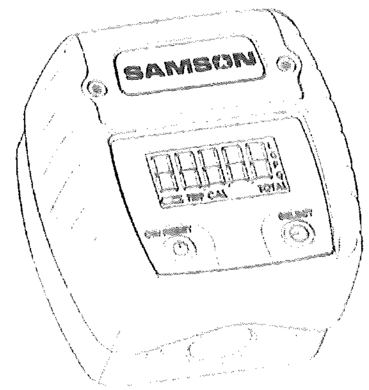
SAMSON

1/2" PVC ELECTRONIC METER

Parts and technical service guide

Part No.: 366 010.300

Introduction



WARNINGS

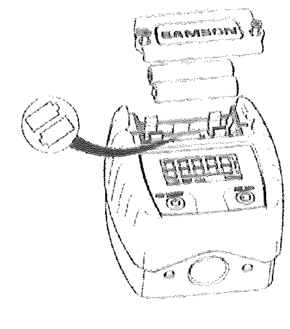
[illegible]

- This meter is an oval gear model.
- Only use the unit for the purposes for which it is intended.
- This unit has not been approved for use in commercial transactions.
- Do not alter or modify the unit.
- Do not exceed the maximum unit working pressure. See page 7, technical specifications.
- Use the unit with fluids and solutions which are compatible with the most parts of the unit. See the relevant section of the technical specifications.
- Observe the manufacturer's safety warnings for the fluids used.
- The meter has been manufactured with low tolerances in order to ensure high precision over a wide range of flows and viscosity.
- Check measurement units counter before first use.
- In order to save energy the meter switches off automatically after 30 seconds of inactivity. All the data are stored for recovery once the meter has been restarted.

Installation

The meter can be connected to a control gun or installed directly in the distribution line pipe.
It is recommendable to install a cut-off valve before the meter to facilitate its maintenance or repair.
The meter has a 1/2" BSP connection at the inlet and outlet.
It also includes an inlet flange and a flange at the outlet which enables connection for the range of guns and original SAMSON accessories.
The meter requires two 1.5 V batteries and size LR 03 as the power supply source. They are housed in a support which, in conjunction with the lid design, prevents the batteries from being removed accidentally in the event of impacts or vibrations.

Batteries



The location of the batteries is shown in the following figure.

WARNINGS

[illegible]

When replacing the batteries the monitor briefly displays the meter software version.

U 1,16

Charging status of the batteries

The meter shows the charging status of the batteries on the display.

If the meter does not switch on when pressing the ON/RESET button, or switches off after being pressed, replace the batteries with new ones.

BATTERIES OK | BATTERIES HALF CHARGED | BATTERIES EMPTY REPLACE THE BATTERIES

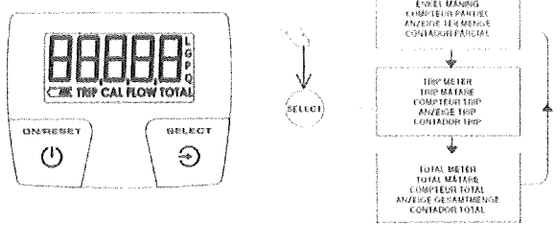
Operating mode

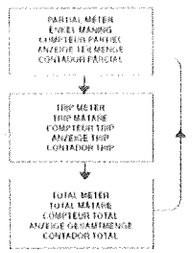
IMPORTANT: Always read the instructions prior to using for the first time

HANDLING

1 ON/RESET
Press once only to switch on the meter.
Keep pressed to reset the partial meter or the "Trip" to zero

2 SELECT
Consecutively press to browse the various functions





On/Off

- The meter is probably switched off when you wish to use it.
- Press the ON/RESET button to switch it on (fig. 1). The meter performs a check on the display by showing all the segments briefly (fig. 2) and then on the display shows a similar status to that shown (fig. 3)

Fig. 1 Fig. 2 Fig. 3

- The display shows the partial meter.
- Although switched off, the meter automatically goes to an On status when detecting fluid flow and starts to record the quantity released by showing the partial meter.
- In order to save energy the meter switches off automatically after 30 seconds of electricity. The registered data are stored.

Fluid release

- To release fluid, switch on the meter by pressing the ON/RESET button or simply start to release and the meter will automatically switch on by starting to register the fluid.
- If, after successive measurements, (fig. 4) you wish to set (fig. 6) the partial meter to zero, hold down the ON/RESET button for a while (fig. 5).

Fig. 4 Fig. 5 Fig. 6

- Each unit of volume released increases both the partial meter and the total meter.
- When the meter switches off, or the batteries are removed, the data of the last measurement taken are stored.

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Operating mode

TRIP function

The meter is fitted with a "Trip" meter which shows the accumulated fluid volume released since the last "reset"

This function enables recording the register of the fluid volume released from a barrel or tank. Set the "Trip" meter to zero when starting a new barrel or tank and then perform the individual transactions with the partial meter. The partial meter can be reset since this will not affect the "Trip" meter. Thus in the "Trip" meter the volume released will be kept for all transactions since the last reset and the remaining volume in the barrel or tank can be ascertained.
When the meter is in normal status (partial meter) (fig. 7), the "Trip" meter can be shown by pressing the SELECT button (fig. 8).

Fig. 7 Fig. 8 Fig. 9

The "Trip" meter (fig. 9) can be set to zero. To do so, keep the ON/RESET button for a while when in "Trip" mode.

The units shown in the "Trip" meter will be the same as for those selected for the partial meter.

To return to normal mode (partial meter), press the SELECT button twice in a row.

Total meter

- The meter is fitted with a Total meter which shows the accumulated the fluid volume released since the meter was put into operation for the first time. The total meter cannot be reset.
- When the meter is in normal status (partial meter) (fig. 10), the Total meter (fig. 13) can be shown by pressing the SELECT button (fig. 11) twice in a row.
- It is enough to press the SELECT button again (fig. 12) to return to the partial meter mode (fig. 10).
- The total meter does not take into account the quantities released during the calibration process
- The changes in the calibration factor do not affect the value stored in the total meter.

Automatic meter reset

Both the partial meter and the total meter are reset to zero when reaching the value 99999.

Fig. 10 Fig. 11 Fig. 12 Fig. 13

Calibration

The meter is calibrated in the factory and does not normally require calibration for the fluids for which is intended (see technical specifications section). Nevertheless, if using fluids with high or low viscosity, as well as if working with high flows or very low flows, calibration may be required.
Calibration may be required after having used the meter for a long time, especially if working with fluids with dirty residues.
Verify the precision of the meter prior to use and proceed with calibration if required.

In order to perform the calibration process correctly the following rules must be adhered to:

1. The calibration can be performed for any volume, however it is recommended for a minimum of 0.2 gal (1 litre). As a maximum 6.6 gal (25 litres) can be used.
2. The container used must be calibrated and be completely empty (prior use of the container can easily leave behind 0,1 l even if it seems empty). Put the container upside down for a while, or clean it before starting the calibration process.
   If you would like a truly accurate calibration, you must use precision scales and know the density of the fluid. With the density data the volume to be released is converted (ahem, 1, 2, 3 ... litres) to mass units.
3. When the fluid is being released you must wait until all the air contained in it is eliminated. This can take some time. If precision scales are used the accumulation of air has no effect.

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Calibration

Calibration capacity

After the calibration process you will obtain precision within the range of ±0,5% with the meter. If the meter exceeds this range it could be due to the following:

- Unsuitable container used for the calibration.
- The container is not empty before the calibration.
- Air in the fluid which has not been completely removed.
- The values are not properly introduced into the calibration process.

Calibration procedures

The calibration process is semi-automatic. To start the process, the meter must be in partial meter mode (fig. 14) and is accessed by simultaneously pressing the buttons ON/RESET and SELECT for 3 seconds (fig. 15). After releasing the buttons the current calibration factor is shown on the meter (fig. 16).

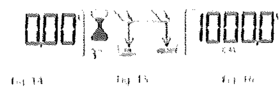


fig. 14 fig. 15 fig. 16

If the screen does not show the correct measuring unit (fig. 16) press the SELECT button (fig. 17) successively until displaying the required unit (fig. 18).
Press ON/RESET (fig. 19) to start the calibration process (fig. 20).

fig. 17 fig. 18 fig. 19 fig. 20

It now starts to release the desired volume into the container. Remember that you must release at least 1 litre to perform a good calibration. In the example shown in the figures it is assumed that 2 litres are released according to the reading on the calibrated container and that the meter records 2,1 litres (fig. 21).

fig. 21

To administer the real quantity released (which is that measured in the calibrated container or scales), press the ON/RESET button for 1 second (fig. 22). The digits start to flash (fig. 23) indicating that the value shown can be modified. Each press of the ON/RESET button increases the value by 0,1 litres and each press of the SELECT button (fig. 24) reduces this value by 0,1 litres (fig. 25).

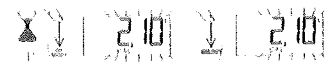


fig. 22 fig. 23 fig. 24 fig. 25

Once the real value released is set (fig. 25) press the ON/RESET button for 1 second (fig. 26). The meter shows the new stored calibration factor (fig. 27) and then exits the calibration process. The screen shows the partial meter with the units set during the calibration process (fig. 28).
If, during any phase of the calibration process, you wish to exit without saving the changes made you must press the SELECT button for 1 second. Likewise, if 10 seconds of inactivity elapse during the process, the meter switches off automatically and exits the calibration process without storing the data.

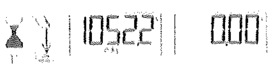
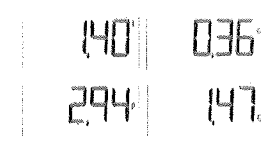


fig. 26 fig. 27 fig. 28

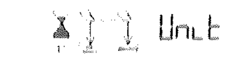
Change in measuring units

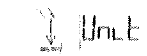
The meter can be configured to use litres [L], gallons [G], pints [P] or quarts [Q].
When making a change from one unit to another the conversion of the quantity stored is made both in the partial meter and in the total meter.



Setting the units

Set the partial meter mode in the meter (fig. 29). Proceed by simultaneously pressing the buttons ON/RESET and SELECT for 1 second (fig. 30) and release the buttons. "Unit" is shown on the meter display. Press the SELECT button (fig. 31) to alternately change the units. Once the desired unit is set, press the ON/RESET button (fig. 32) to save the configuration and enter the normal meter mode.





If, during the unit change process, 10 seconds elapse without the meter being pressed it will change to the OFF mode.

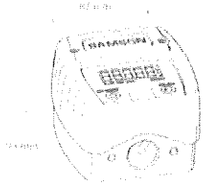
WARNINGS

Trouble shooting

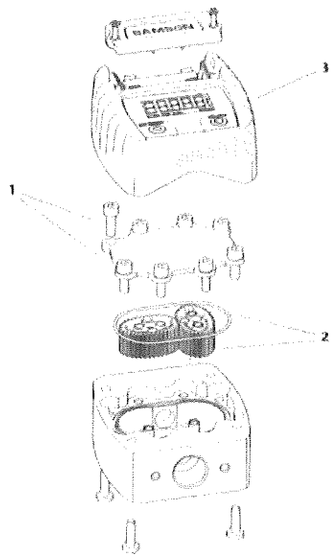
Symptom	Possible cause	Solution
Blurred or unclear reading	Batteries empty	Replace the batteries
The meter does not switch on	Batteries empty	Replace the batteries
The meter is inaccurate	Erroneous calibration factor	Calibrate the meter.
	A fluid with very high or very low viscosity is being used	Calibrate the meter.
	Very high or low fluid temperature.	Calibrate the meter.
	The meter is working outside its field of application (see technical specifications)	Restore the working conditions (flow, viscosity, temperature...) to those required by the meter
Reduced flow.	Dirt in the measuring chamber.	Clean the measuring chamber
The meter does not count	Faulty reed sensor	Inform technical support

Technical Specifications

Type	Oval gear meter
Functions	Partial meter, "Trip" meter, Total meter, Change in the measurement unit, calibration
Moist part materials	PVC, Acetal, Stainless Steel, Viton
Inlet connection	1/2" BSP and Flange
Outlet connection	1/2" BSP and Flange
Maximum working pressure	435 psi (30 bar)
Burst pressure	1,305 psi (90 bar)
Compatible fluids	AUS32 (DEF, AdBlue), glycol, coolant solutions, water, windshield washer
Flow	0.26 to 13 gal/min (1 to 50 l/min)
Pressure drop at max. Flow	43.5 psi (3 bar)
Viscosity range	1 a 2000 cSt
Operating temperature	14 °F to 140 °F (-10 °C to 60 °C)
Precision	±0,5%
Display	LCD with 5 digits and 2 decimal positions
Measurement units	litres, gallons, quarters, pints
Display dimensions	0.7" x 1.6" (20 x 41,5 mm)
Display view angle	170°
Display resolution	0,01 for litre, gallon and quarter units
	0,02 for pint units
Power supply	Two 1,5 V batteries, IEC LR03 / ANSI AAA
Consumption	Rated operation: 1 mA
	Standby mode: 10 µA
Pulse ratio	160 ppl. (water based fluid)
Pushbutton actuation force	5,6 oz (160 g)
Weight	19 oz (545 g)
Dimensions	



Spare Parts



Pos.	Part No.	Description	Qty.
1	940313	Socket head screw	8
	896428	Stainless Steel Measuring chamber kit	1
2	946184	O-ring	1
	836600	Oval gear	1
	836467	Magnet	2
3	836203	Electronic card	1
	836609	Casing	1
	940524	Screw with plastic thread PCB	4
	940523	Screw with plastic thread casing	4

SAMSON®

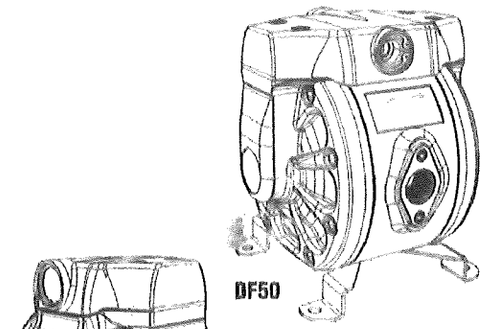
1/2" DOUBLE DIAPHRAGM PUMP DF30 (38 l/min)
1/2" DOUBLE DIAPHRAGM PUMP DF50 (50 l/min)
1" DOUBLE DIAPHRAGM PUMP DF100 (100 l/min)

Operation and maintenance manual

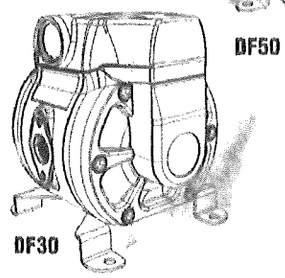
Codes:
5530XX
5520XX
5510XX

ENGLISH

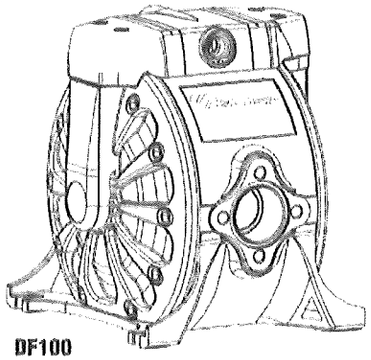
ESPAÑOL



DF50



DF30



DF100

Technical data

	DF30	DF50	DF100
Ratio	1:1	1:1	1:1
Maximum free flow	10 gal/min (38 l/min)	13.21 gal/min (50 l/min)	26.42 gal/min (100 l/min)
Delivery per stroke	2.37 oz (0,07 l)	3.38 oz (0,1 l)	8.45 oz (0,25 l)
Air pressure operating range	22 to 102 psi (1.5 to 7 bar)	22 to 102 psi (1.5 to 7 bar)	22 to 102 psi (1.5 to 7 bar)
Solid in suspension max size	0.12 in (3 mm)	0.12 in (3 mm)	0.16 in (4 mm)
Maximum suction head	13.2 ft (4 m) dry 26.25 ft (8 m) wet	19.69 ft (6 m) dry 26.25 ft (8 m) wet	14.76 ft (4,5 m) dry 22.97 ft (7 m) wet
Weight	4.85 lb (2,2 kg)	7.72 lb (3,5 kg) metallic 6.17 lb (2,8 kg) plastic	15.87 lb (7,2 kg) metallic 14.33 lb (6,5 kg) Plastic
Fluid inlet (single inlet)	1/2" BSP - NPT (F)	1/2" NPSM (F) and flange with metallic body, BSP- NPT (F) and flange with plastic body.	1" BSP/NPT (F) and flange
Fluid inlet (double inlet)	2 x 3/8" BSP - NPT (F)	2 x 3/8" NPSM (F) with metallic body, BSP - NPT (F) with plastic body.	
Fluid outlet	1/2" BSP - NPT (F)	1/2" NPSM (F) and flange with metallic body. BSP - NPT (F) plastic body.	1" BSP/NPT (F) and flange
Air inlet	3/8" NPSM (F)	3/8" NPSM (F)	3/8" NPSM (F)
Wetted part materials	See model specifications	See model specifications	See model specifications
Noise level	80 db	80 dB	80 dB
Temperature range (see material temperature range on page 2).	32 - 158 °F (0 - 70 °C)	32 - 158 °F (0 - 70 °C)	32 - 158 °F (0 - 70° C)

2016.02 18-11-36

Warnings and cautions

In this document you will find warnings and cautions for installation, use and maintenance of the Direcflo pumps.

Here's the meaning of symbols you may find in this document and general warnings that you should keep in mind.

⚠ Warning

This symbol aware that there is a danger of serious bodily injury or death if you ignore the warning described.

⚠ Caution

This symbol aware that there is a danger of personal injury or property damage if you ignore the caution described.

⚠ Warning

Carefully read the instructions and warnings before operating the equipment!

- This equipment is for professional use only.
- Do not degrade the integrity of the equipment. Use only original replacement components from Samson Corporation.
- Fluids not suitable for the pump can cause damage to the pump unit and involve risk of serious personal injury.
- Always consult Samson Corporation if you have any questions about the compatibility within the fluids and the pump materials, including elastomers.
- Install and use the pump according to all local and national regulations and abide all health and safety laws or legislation.
- The pump can produce fluid pressures equal to the air supply pressure. Do not exceed the maximum allowable pressure of 100 psi (7 bar) air supply. The total hydraulic pressure (differential pressure + system) should never exceed 100 psi (7 bar).
- Never use a pump that leaks, that is damaged, that is corroded or otherwise it may lack the capacity to contain the fluid.
- Frequently check that the bolts on the diaphragm cover of the pump are torqued correctly.
- Do not use a model with aluminium wetted surfaces to pump fluids for human consumption, there is a possibility of trace contamination of lead.
- Danger of explosion if used 1,1,1-trichloroethane, methylene chloride or other halogenated hydrocarbon solvents with aluminium wetted materials. It could cause serious injury and property damage.
- Inside the pump, diaphragms separate the fluid that is being pumped from the air supply. If a diaphragm breaks, the fluid can leak out of the air exhaust and contaminate the environment.
- When handling hazardous fluids, always route the air exhaust into a suitable container and locate it in a safe place.
- When the fluid source level is situated higher than the pump, (flooded suction), the outlet tank must be at a higher level than the product to prevent spills.
- For pumps handling hazardous fluids that are a danger to humans or to the environment, install a suitable container surrounding the pump to prevent any leaks or spills.
- Ensure that the operators of this equipment are trained on the operation and limitations. Use safety equipment as safety goggles or other equipment required.

Description

Air operated double diaphragm pumps are air-powered, reciprocating positive displacement pumps with two pumping chambers. Two diaphragms, centrally located in the chambers, separate the compressed air (dry side) from the fluid being pumped (wet side). A shaft transmits the reciprocating motion of one diaphragm to the other. A directional valve alternatively distributes the air from one chamber to the other; thus a reciprocating movement of the diaphragms is created. With each stroke, fluid is discharged by one of the diaphragms whilst the opposite diaphragm sucks new fluid into the expanding chamber. Check valves, two on the discharge side and two on the suction side, control and direct the fluid flow.

Material	Temperature range
PTFE	41 °F - 221 °F / 5 °C - 105 °C
NBR	50 °F - 176 °F / 10 °C - 80 °C
Acetal	50 °F - 194 °F / 10 °C - 90 °C
Hytrel®	50 °F - 194 °F / 10 °C - 90 °C
Neopreno	0 °F - 200 °F / -18 °C - 93 °C
Santoprene®	-20 °F - 275 °F / -29 °C - 135 °C
Viton®	-4 °F - 248 °F / -10 °C - 120 °C
Polypropylene	50 °F - 176 °F / 10 °C - 80 °C

ENGLISH

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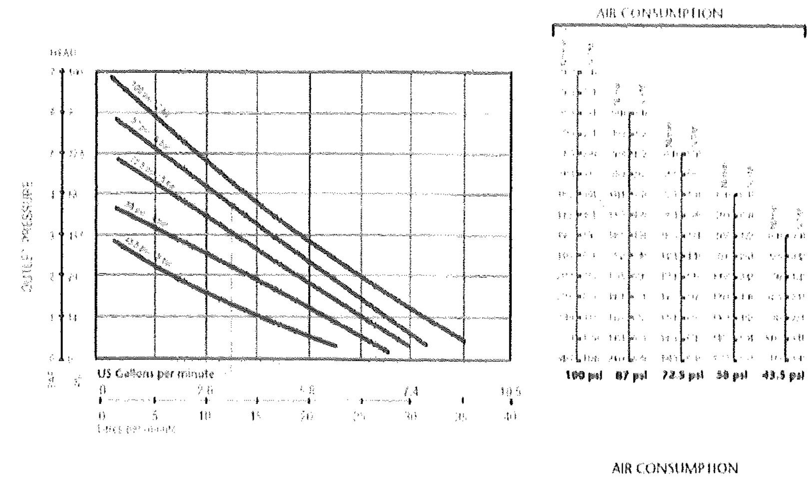
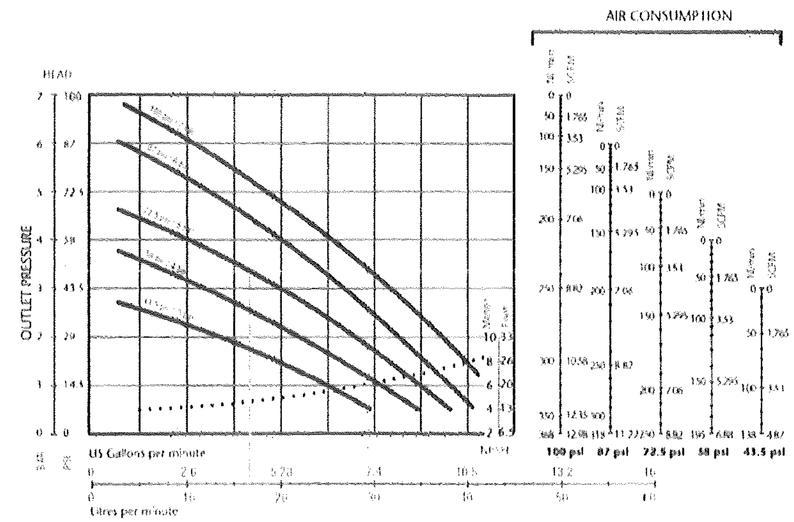
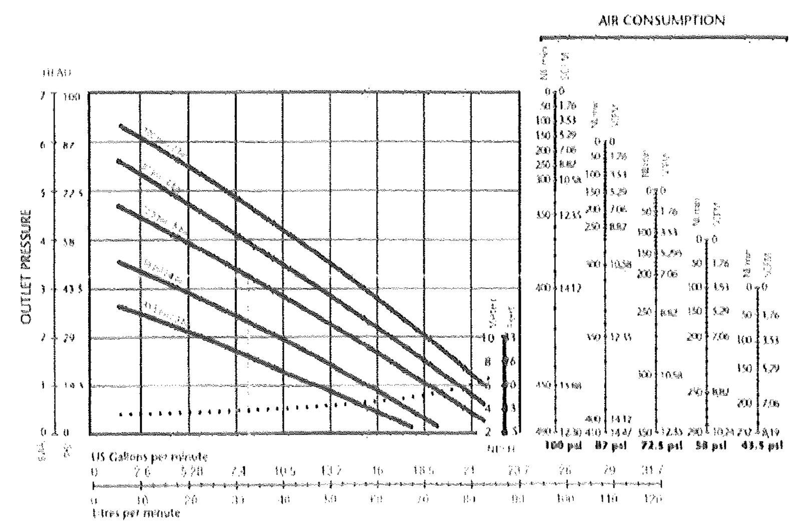
DF30



DF50



DF100

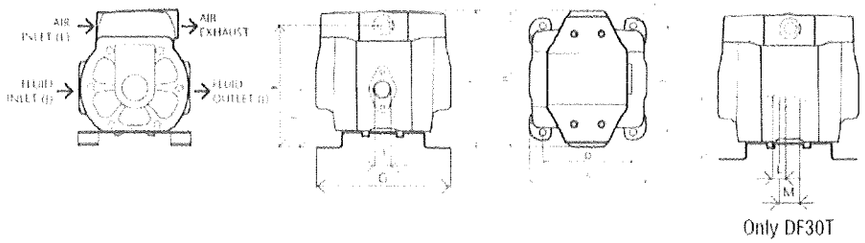


**Tested at room temperature, using water. Flooded pump with 3.5 inches. (80 mm). positive suction head.*

2016.02.18-13:30

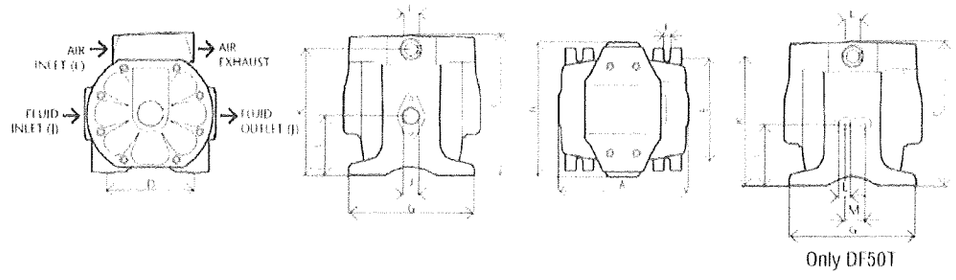
Dimensions

DF30 / DF30T														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
5.12"	6.3"	6.38"	4.13"	4.8"	0.31"	5.51"	5.31"	2.76"	1/2" BSP NPT	5.71"	3/8" BSP NPT	0.94"	M6	1.61"
130 mm	160 mm	162 mm	105 mm	122 mm	8 mm	140 mm	135 mm	70 mm		145 mm		24 mm		41 mm



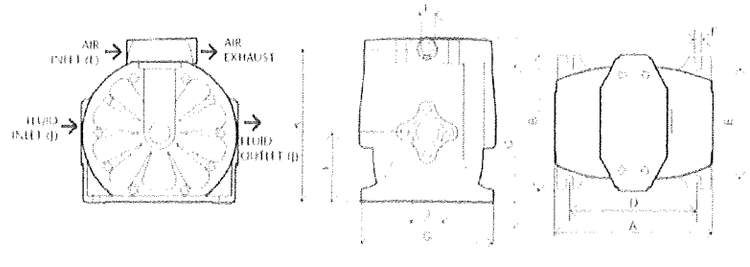
Only DF30T

DF50 / DF50T							
A	B	C	D	E	F	G	H
6.14"	6.3"	6.57"	4.13"	4.8"	0.31"	5.75"	5.51"
156 mm	160 mm	167 mm	105 mm	122 mm	8 mm	146 mm	140 mm
H	I	J	K	L	M	N	P
5.51"	2.76"	1/2" BPS NPT NPSM	5.91"	3/8" NPSM	0.94"	M6	1.61"
140 mm	70 mm		150 mm		24 mm		41 mm



Only DF50T

DF100											
A	B	C	D	E	F	G	H	I	J	K	L
8.5"	7.44"	8.94"	6.89"	6.06"	0.35"	7.24"	8.27"	3.72"	1 BSP NPT	8.27"	3/8" NPSM
216 mm	189 mm	227 mm	175 mm	154 mm	9 mm	184 mm	210 mm	94,51 mm		210 mm	



Installation recommendations

- Remove the pump from its package and install it on the chosen location.
- Try to minimize the suction head. Install the pump as close as possible to the fluid being pumped.
- Remember to have enough space around the pump to perform maintenance tasks.
- Keep in mind to connect the inlet and outlet of the pump correctly.
- In case of diaphragm pump failure, the air exhaust will expell the product being pumped.
- When the pump is installed in a place where a spill of fluid can cause an environmental impact, the exhaust should be directed to a place, where this spill could be contained.
- When installing the pump in its place, use brackets to secure its base.
- Fasten all bolts with the torques contained in this manual.

DF pumps are very easily configured and easy to install.

Flooded:

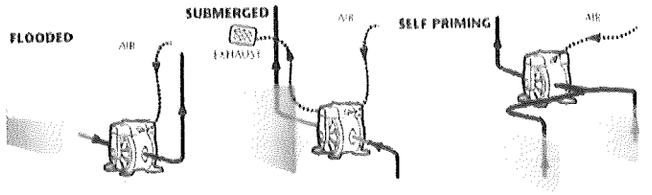
The pumping system was designed with positive pressure at the inlet. This is the best possible installation when you need to evacuate the liquid from the drum or tank, or when working with viscous fluids.
Not recommended for hazardous fluids.

Self-priming:

Pump is designed to generate vacuum. It is possible to evacuate all the air from a hose or pipe without damaging the pump. Maximum suction height is 19.69 ft (6 m), with the suction hose empty and up to 26.25 ft (8 m) with the hose primed. (See page 1 for corresponds suction lift).

Submerged:

All pumps can be immersed in fluids. It is important to verify that all components that are in contact with the fluid are chemically compatible. In this case, air exhaust and fluid must be carried by hoses (optional air connection).

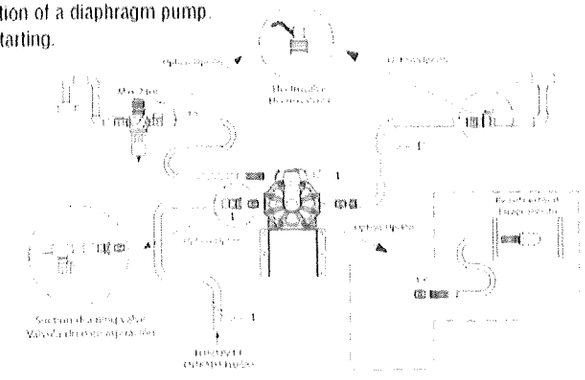


NOTE: *Use a pressure regulator with built-in filter inlet.*

NOTE: *The compressed air supply must be between 43.5 psi (3 bar) and 100 psi (7 bar).*

Recommended installation

The figure below shows the recommended configuration for the installation of a diaphragm pump.
Read the warnings and recommendations of the previous page before starting.



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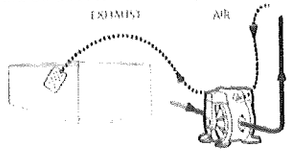
Air exhaust disposal

Warning

The pump exhaust should be directed to a safe place, away from people, animals and food.



- Optional kit is required for remote exhaust.
- Remove the muffler.
- Connect a hose to the exhaust port of the pump and install the muffler at the end of the hose. Use a hose with the same diameter as the exhaust port. (If the hose is more than 5 feet (1.5 m), consult your dealer or Samson Corporation).
- Have a moat, a protective housing, etc. at the end of the hose.

Installation

⚠ Warning

Air connection

To ensure that the air supply is sufficient to meet the demand of the pump, the diameter of the pipe must be equal to the diameter of the supply port of the pump. Choose auxiliary air treatment equipment and fittings with sufficient airflow to exceed the air consumption of the pump. In addition, peripheral air treatment equipment must be installed as close as possible to the pump unit.
The use of a coupler to connect the hoses aids future operation and maintenance tasks.

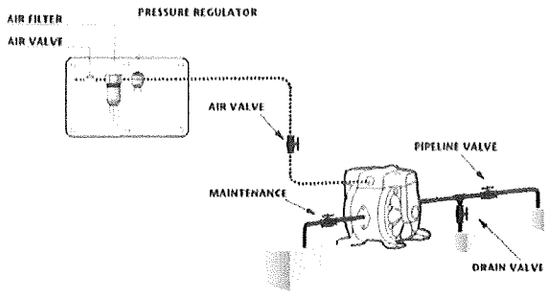
Operating instructions

This pump is self-priming.
To prime it the first time, you must connect the air pump supply to a low pressure using the pressure regulators while keeping the outlet valve open. When fluid begins to flow from the pump outlet, the pump is primed.

For regulation of fluid pressure, the unit must be supplied with an air pressure between 43.5 and 100 psi (3 and 7 bar). Adjust the discharge valve on the discharge side to control flow. For the performance characteristics of the pump see the capacity curve shown on page 3.

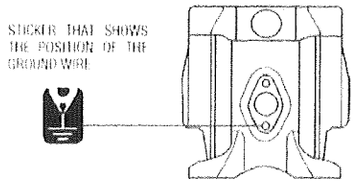
Stopping the pump

- Close the inlet valve of the pump and stop the air supply.
- Make sure for your safety that the air valve is closed.
- Turn off the air compressor, or close the valve on the air supply side of the auxiliary equipment.
- Close the discharge valve on the discharge side, then begin to slowly open the drain valve and discharge pressure fluid.
- Open the air valve of the pump, turn on the pump and flush the remaining fluid.
- After ensuring that the pump was turned off and the pressure was released, fully open and close the regulator valve and drain valve of the pump.



Grounding the pump

- When installing the pump, be sure to perform grounding in the specified location.
- Also connect ground wires for the auxiliary equipment and piping.
- Use a grounding cable of at least 12 gauge (2.0 mm²).



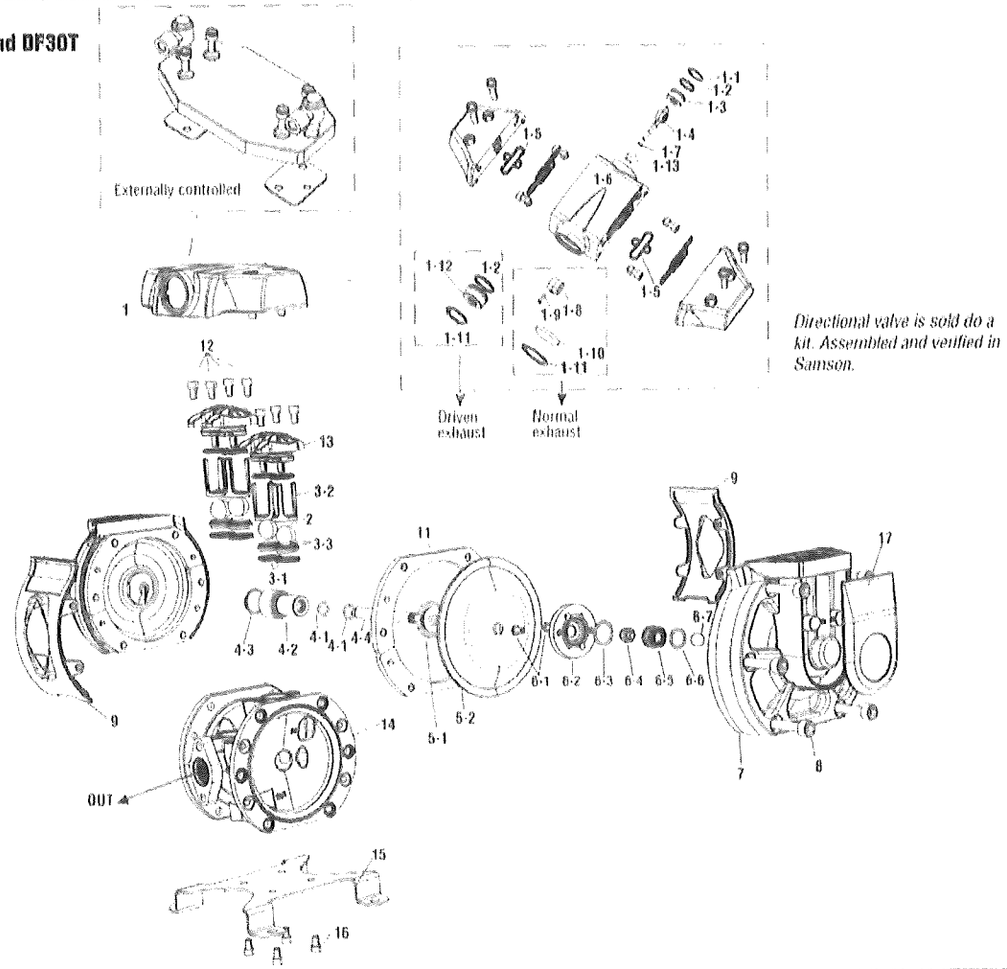
⚠ Warning

- Connect grounding wires to the pump, piping and all other equipment too.
- When the pump operates ungrounded or with an incorrect connection, friction between parts and abrasion caused by some fluids that flow inside the pump, can generate static electricity. Moreover, according to the type of fluid pump and the installation environment (such as gases in the air or the type of the surrounding facilities) static electricity can cause fire or electric shock.

- If the pump you have purchased is valid for Atex, a specific Atex manual will accompany this one. Read this manual before operating the pump.

- If the unit is marked with the symbol, ⟨Ex⟩ it can be used in potentially explosive atmospheres. Below this symbol, in the nameplate of the pump, are indicated the areas for which the equipment is approved. You will also find the maximum allowable surface temperature in the same plate.

DF30 and DF30T



Directional valve is sold do a kit. Assembled and verified in Samson.

No.	Code	Description	Qty.	Notes
1	Table 1	Directional Valve	1	Options: Normal exhaust Driven exhaust Externally controlled
2	Table 2	Balls	-	
3	Table3	Ball check seats / O-rings / Ball guides	-	
4	Table 4	Bushing / Seal / Push rod	-	
5	Table 5	Diaphragms	-	
6	Kit (558301)	Air sensors	-	Not available in externally controlled models
7	755117	Diaphragm cover	2	(Not sold as a kit)
8	940380	Diaphragm cover bolts	12	(Not sold as a kit)
9	Table 9	Pump shields	2	(Not sold as a kit)
11	855420	Diaphragm cover washers	4	(Not sold as a kit)
12	940319	Valves cap bolts	8	(Not sold as a kit)
13	Table 13	Valves caps	2	(Not sold as a kit)
14	Table 14	Body	1	(Not sold as a kit)
15	855414	Pump support	1	(Not sold as a kit)
16	940319	Support bolts	4	(Not sold as a kit)
17	855646	Cover	2	(Not sold as a kit)

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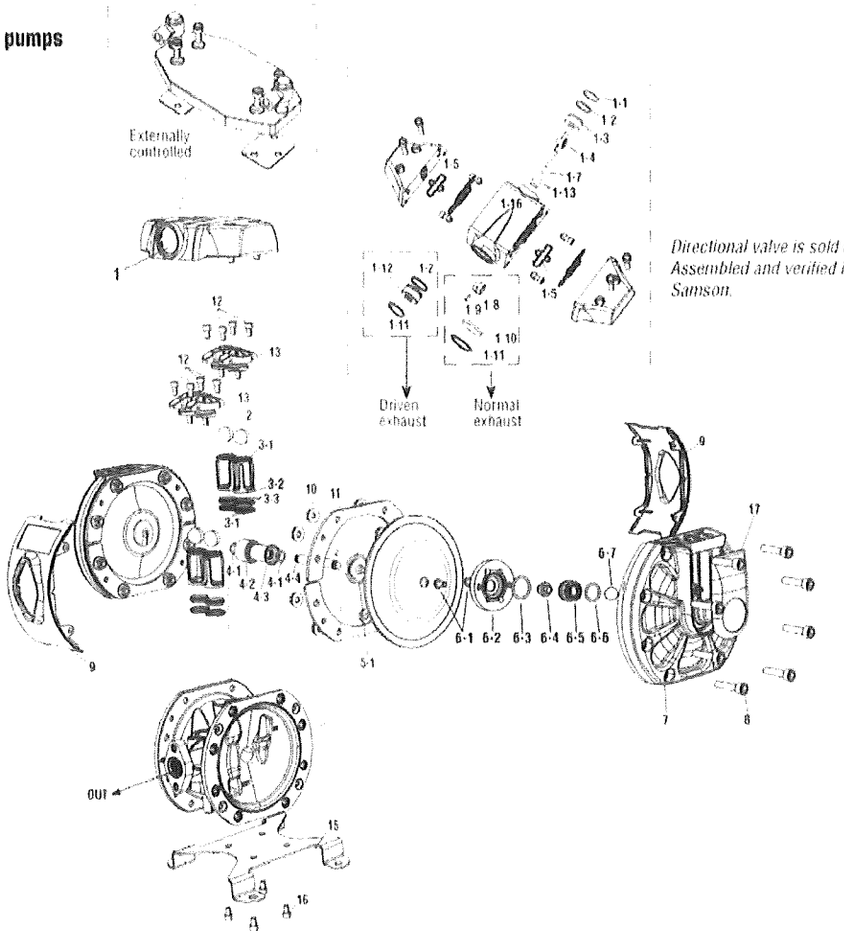
DF50 and DF50T Composite pumps

All instances



Directional valve is sold do a kit Assembled and verified in Samson.

No.	Code	Description	Qty.	Notes
1	Table 1	Directional valve	1	Options: Normal exhaust Driven exhaust Externally controlled
2	Table 2	Balls	-	
3	Table 3	Ball check seats / O-rings / Ball guides	-	
4	Table 4	Bushing / Seal / Push rod	-	
5	Table 5	Diaphragms	-	
6	Kit (558301)	Air sensor	-	Not available with externally controlled models
7	755106	Diaphragm cover	2	(Not sold as a kit)
8	940380	Diaphragm cover bolts	16	(Not sold as a kit)
9	Table 9	Pump shields	2	(Not sold as a kit)
10	941126	Diaphragm cover nuts	16	(Not sold as a kit)
11	855413	Diaphragm cover washers	4	(Not sold as a kit)
12	940319	Valves cap bolts	8	(Not sold as a kit)
13	Table 13	Valves caps	2	(Not sold as a kit)
14	Table 14	Body	1	(Not sold as a kit)
15	855414	Pump support	1	(Not sold as a kit)
16	940319	Support bolts	4	(Not sold as a kit)
17	855601	Cover	2	(Not sold as a kit)

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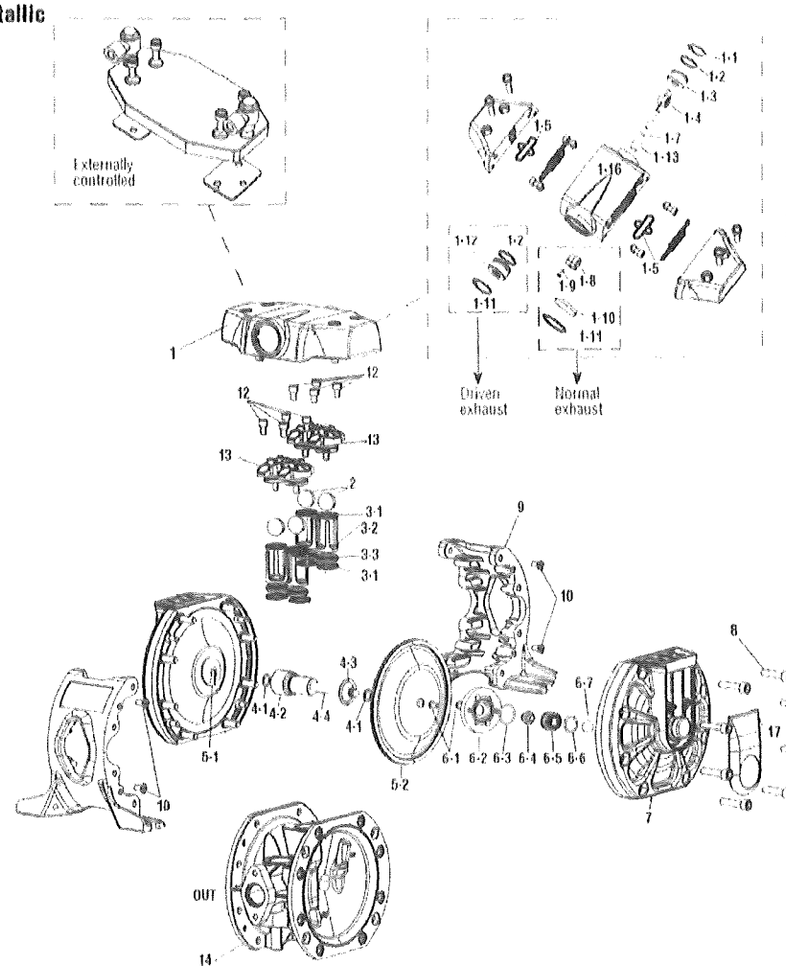
DF50 y DF50T Metallic



Directional valve is sold do a kit. Assembled and verified in Samson.

No.	Code	Description	Qty.	Notes
1	Table 1	Directional valve	1	Options: Normal exhaust / Driven exhaust / Externally controlled
2	Table 2	Balls	-	
3	Table 3	Ball check seats / O-rings / Ball guides	-	
4	Table 4	Bushing / Seal / Push rod	-	
5	Table 5	Diaphragms	-	
6	Kit (558301)	Air sensor	-	Not available with externally controlled models
7	755106	Diaphragm cover	2	(Not sold as a kit)
8	940380	Diaphragm cover bolts	16	(Not sold as a kit)
9	Table 9	Pump shields	2	(Not sold as a kit)
10	940506	Pump shield bolts	8	(Not sold as a kit)
12	940319	Valves cap bolts	8	(Not sold as a kit)
13	Table 13	Balls caps	2	(Not sold as a kit)
14	Table 14	Body	1	(Not sold as a kit)
17	855601	Side cover	2	(Not sold as a kit)

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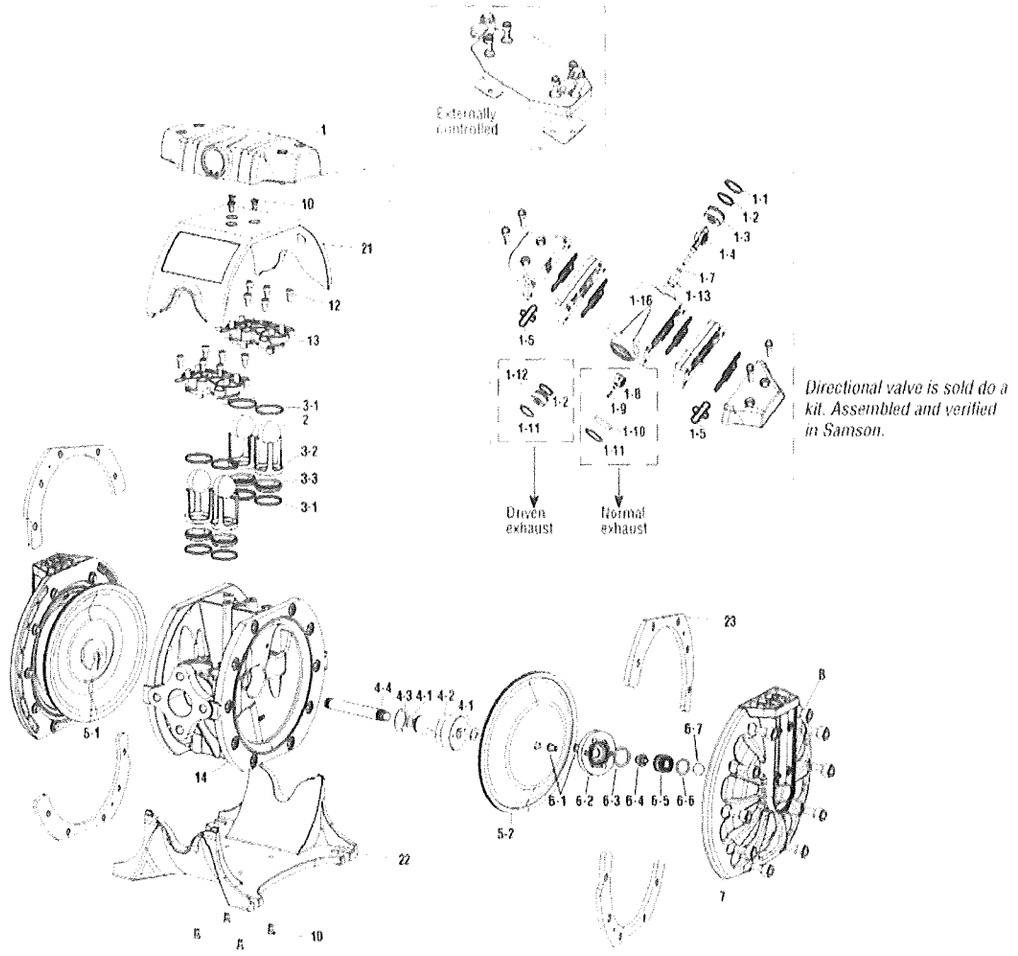
DF100



Directional valve is sold do a kit. Assembled and verified in Samson.

No.	Code	Description	Qty.	Notes
1	Table 1	Directional valve	1	Options: Normal exhaust Driven exhaust Externally controlled
2	Table 2	Balls	-	
3	Table 3	Ball check seats / O-rings / Ball guides	-	
4	Table 4	Bushing / Seal / Push rod	-	
5	Table 5	Diaphragms	-	
6	Kit (558301)	Air sensor	-	Not available with externally controlled models
7	755111	Diaphragm cover	2	(Not sold as a kit)
8	940334	Diaphragm cover bolts	20	(Not sold as a kit)
10	940914	Diaphragm cover nuts	7	(Not sold as a kit)
12	940319	Diaphragm cover washers	12	(Not sold as a kit)
13	Table 13	Valves caps	2	(Not sold as a kit)
14	Table 14	Body	1	(Not sold as a kit)
17	855604	Cover	2	(Not sold as a kit)
21	Table 9	Upper shield	1	(Not sold as a kit)
22	Table 9	Lower shield	1	(Not sold as a kit)
23	855416	Shield attachment	4	*Only for composite

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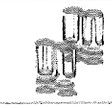
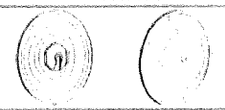
Pumps repair kit codes

Pump size	Samson code	Table 1 Directional valve	Table 1 Kit code	Table 2 Balls	Table 2 Kit code	Table 3 Ball valves seats / Seals / Cages	Table 3 Kit code
DF30	553010X	Standard	558300.300	PTFE	558319	Stainless steel / Viton / Polypropylene	558316
DF50	552010X	Standard	558300.300	ACETAL	558321	Stainless steel / Viton / Acetal	558315
	552011X	Standard	558300.300	ACETAL	558321	Stainless steel / Viton / Acetal	558315
	552015X	Standard	558300.300	PTFE	558319	Stainless steel / Viton / Polypropylene	558316
	552016X	Standard	558300.300	ACETAL	558321	Stainless steel / Viton / Acetal	558315
	552021X	Standard	558300.300	ACETAL	558321	Stainless steel / Viton / Acetal	558315
	552026X	Standard	558300.300	ACETAL	558321	Stainless steel / Viton / Acetal	558315
DF100	551010X	Standard	558350.300	ACETAL	558365	Stainless steel / NBR / Acetal	558357
	551015X	Standard	558350.300	PTFE	558363	Stainless steel / Viton / Polypropylene	558360
							

Pump size	Samson code	Table 4 (See note at the bottom of the page) Bushing / Seals / Shaft	Table 4 Kit code	Table 5 (See note at the bottom of the page) Diaphragms	Table 5 Kit code	Table 9 Air sensor	Table 9 Kit code
DF30	553010X	PTFE / Viton / Stainless steel	558326.001	HYTREL	558337.001	Standard	558301
DF50	552010X	PTFE / NBR / Stainless steel	558304.001	HYTREL	558303.001	Standard	558301
	552015X	PTFE / Viton / Stainless steel	558307.001	HYTREL	558303.001	Standard	558301
	552016X	PTFE / Viton / Stainless steel	558307.001	HYTREL	558303.001	Standard	558301
	552021X	PTFE / Viton / Stainless steel	558307.001	HYTREL	558303.001	Standard	558301
	552026X	PTFE / Viton / Stainless steel	558307.001	HYTREL	558303.001	Standard	558301
DF100	551010X	PTFE / NBR / Stainless steel	558352.001	HYTREL	558368.001	Standard	558301
	551015X	PTFE / Viton / Stainless steel	558353.001	HYTREL	558368.001	Standard	558301
							

For pumps prior to February 2013 (serial n° prior to 329041/250) the replacement kit has to be ordered without the .001 suffix

Table 9 PUMP SHIELD - (Not sold a kit one piece per code)	DF30	DF30T	DF50	DF50T	DF100
A = Aluminum	-	-	755108.370	IN: 755109	UPPER: 755113
				OUT: 755108	LOWER: 755114
P = PP	855645	IN: ASK SAMSON	855625.370	IN: 855626	UPPER: 855637
		OUT: 855625		OUT: 855625	LOWER: 855636

Table 13 VALVE CAPS (Not sold a kit one piece per code)	DF30	DF50	DF100
A = Aluminum	-	855107	855112
B = Conductive PP	855654	855654	855653
C = Acetal	855620	855620	-
D = Conductive Acetal	855629	855629	855635
N = Electroless Nickel Plated Aluminum	-	755107.001	755112.001
P = PP	855609	855609	855633
S = SS	-	ASK SAMSON	ASK SAMSON

Table 14 WETTED PUMP BODY (Not sold a kit one piece per code)	DF30	DF30T	DF50	DF50T	DF100
A = Aluminum	-	-	755104	755105	755110.300
B = Conductive PP	755402.300	-	755215.300	-	755315.300
C = Acetal	-	-	755213.300	855619.300	-
D = Conductive Acetal	755401.300	-	755214.300	-	755314.300
N = Electroless Nickel Plated Aluminum	-	-	ASK SAMSON	-	ASK SAMSON
P = PP	755400.300	-	755212.300	855608.300	755312.300
S = SS	-	-	755050	-	755051.300

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The pump does not work.	
Cause	**Recommended measure**
The discharge valve on the discharge side is not open.	Open the discharge valve on the discharge side.
No air supply.	Turn on the compressor and open the air valve and air regulator.
The air supply pressure is low.	Check the compressor and the configuration of the air line.
Air leaks in connecting elements.	Check the connection elements and the tightening of the screws.
The air pipes or ancillary equipment is clogged with mud.	Check and clean the air line.
The exhaust port (muffler) of the pump is clogged with mud.	Check and clean the exhaust port and muffler.
The fluid pipe is clogged with mud.	Check and clean the fluid line.
Pump is clogged with mud.	Remove, inspect and clean the pump body.

The pump runs but no fluid comes out.	
Cause	**Recommended measure**
The valve on the suction side is not open.	Open the valve on the suction side.
Too much suction or discharge height.	Confirm the configuration of the pipe and reduce the height of the same.
Fluid pipe discharge side (including the filter) is clogged with mud.	Check and clean the fluid line.
Pump is clogged with mud.	Dismantle the pump, check and clean.
The ball and ball seat is worn or damaged.	Inspect and replace parts.

The flow is decreasing.	
Cause	**Recommended measure**
The air supply pressure is low.	Check the compressor and the configuration of the air line.
The air line or peripheral equipment clogged with mud.	Check and clean the air line.
Valve discharge side drive will not open normally.	Adjust the discharge valve discharge side.
The air mixes with the fluid.	Replenish fluid and check the configuration of the pipe on the suction side.
Cavitation occurs.	Adjust air supply pressure and discharge pressure and reduce the suction.
Vibrations.	Adjust air supply pressure and discharge pressure. Reduce the flow of the inlet valve to adjust pressure and volume of fluid.
Ice formation in the air exhaust.	Remove ice from the air bypass valve and check and clean the air filter. Use a pipe in the exhaust air that the ice does not form in the muffler.
The fluid line (including the filter) plugged with mud.	Check and clean the fluid pipe and strainer.
The exhaust port (muffler) of the pump is clogged with mud.	Check and clean the exhaust port and muffler.
Pump is clogged with mud.	Remove, inspect and clean the pump body.

Leakage of fluid through the hollow exhaust (silencer).	
Cause	**Recommended measure**
The diaphragm is damaged.	Remove and inspect the pump and replace the diaphragm.

Irregular noise.	
Cause	**Recommended measure**
The air supply pressure is too high.	Adjust air supply pressure.
The pump is clogged with sludge particles larger than the diameter allowed.	Remove, check and clean the pump body.

Irregular vibration.	
Cause	**Recommended measure**
The elements of connection and the support of the pump are loose.	Review each element of connection and tighten the screws.
The air supply pressure is too high.	Adjust air supply pressure.
The range and ball valve vibrates.	Adjust air supply pressure and exhaust pressure.

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Troubleshooting

In fluid with air bubbles.	
Cause	**Recommended measure**
Diaphragm damaged.	Replace diaphragm.
Suction hose loose or broken.	Tighten or replace.

Powered air leak pressure of 3 to 7 bar.	
Cause	**Recommended measure**
Wear directional valve.	Replace directional valve components.

No start-up and is leaking air without cycles.	
Cause	**Recommended measure**
Stiff air sensors.	Change air sensor.
Wear directional valve.	Replace.

Repair and maintenance procedures

Directional valve

There are several models of directional valves mounted on diaphragm pumps DF. Externally controlled directional valve, directional valve with remote exhaust and normal exhaust. To identify the one you have purchased, go to the following chart with your product code, which can be found on the nameplate of the pump, in the case externally controlled see the parts drawing for your pump on pages 7-10.

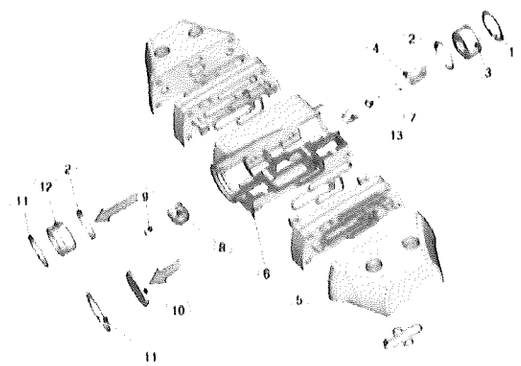
DF____	X	X	X	X	X	X	X	X	X	X

Kit DIRECTIONAL VALVE normal exhaust

	Pos.	Description	Qty.	Material
A	1	Air inlet circlip	1	Steel
	2	O-ring	1	NBR
	3	Inlet adaptor	1	Steel
	4	Pivoting arm	1	Elastollan Delrin
	5	Distributor lower seal	2	NBR
	6	Directional valve body	1	Aluminium
	7	O-ring	1	NBR - PTFE
	8	Sealing drum	1	Elastollan Delrin
	9	Bolt	1	Stainless steel
	10	Muffler	1	Brass
	11	Air outlet circlip	1	Steel
	13	Distributor bronze bushing	1	Bronze

Kit DIRECTIONAL VALVE normal exhaust

	Pos.	Description	Qty.	Material
B	1	Air inlet circlip	1	Steel
	2	O-ring	2	NBR
	3	Inlet adaptor	1	Steel
	4	Pivoting arm	1	Elastollan Delrin
	5	Distributor lower seal	2	NBR
	6	Directional valve body	1	Aluminium
	7	O-ring	1	NBR - PTFE
	8	Sealing drum	1	Elastollan Delrin
	9	Bolt	1	Stainless steel
	11	Air outlet circlip	2	Steel
	12	Outlet adaptor	1	Steel
	13	Distributor bronze bushing	1	Bronze



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Maintenance (to remove the pivoting arm):

1. Remove 1, 2 ,3 , 10, 11, 12
2. Remove 9
3. Remove 4, 7, 8

Torques necessary for the proper functioning of the pump

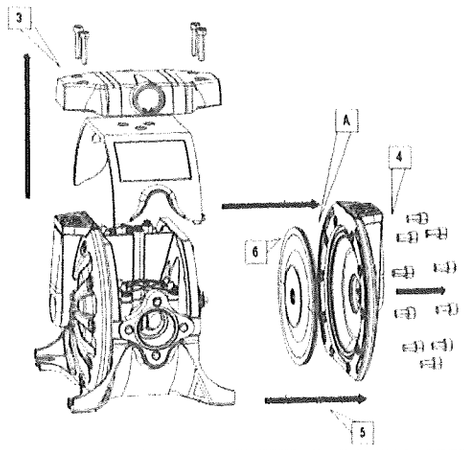
For proper operation of the pump and to prevent accidents which may damage equipment and in the worst case, people, you must periodically review the torques of the diaphragms covers and the DIRECTIONAL VALVE. In the next table are shown the appropriate torques for this purpose:

Torques **DF30**	Diaphragm cover	70.81 lbf·in (8 N·m)
	Directional valve	44.25 lbf·in (5 N·m)
	Valve cap	30.9 lbf·in (2 N·m) composite
Torques **DF50**	Diaphragm cover	48.67 - 53.1 lbf·in (5.5 - 6 N·m)
	Directional valve	44.25 lbf·in (5N·m)
	Valve cap	35.4 lbf·in (4 N·m) Aluminium - 30.9 lbf·in (2 N·m) composite
Torques **DF100**	Diaphragm cover	137.7 lbf·in (15 N·m)
	Directional valve	44.25 lbf·in (5 N·m)
	Valve cap	35.4 lbf·in (4 N·m) Aluminium - 30.9 lbf·in (2 N·m) composite

Diaphragm replacement

Before any intervention: DISCONNECT AIR SUPPLY OF THE PUMP.
IT IS NOT NECESSARY TO REMOVE THE PUMP FROM THE FLUID LINE.

1. Close fluid valves.
2. Drain the fluid inside the pump. Anticipate a drainage of fluid from inside the pump.
3. Remove the directional valve while being careful not to damage the seals shown in the first figure.
4. Remove the diaphragm cap.
   NOTE: To tighten these screws you must use a torque wrench calibrated to (see torque table in this page).
5. Remove the cover by gently pulling back.
6. Remove the used diaphragm and place the new one in the proper position.
   Assemble components.

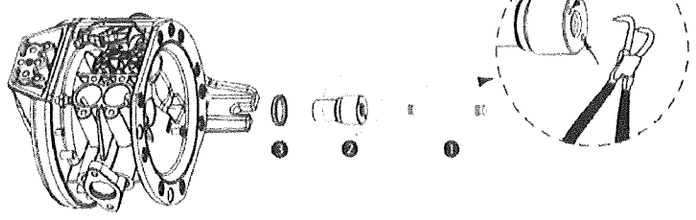


Pushing rod

Remove the side cover on the right of the fluid inlet as shown in the figure, following the procedure to "Replace diaphragms".

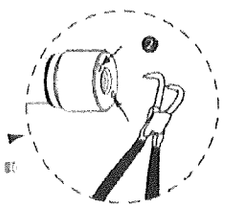
Once the shaft is visible, use the following procedures:

1. Remove the shaft from its housing by pulling it from one end.
   The Teflon® sleeve is threaded into the body. To remove use snap ring pliers in the two holes indicated in the figure.



2. Once the cap has been removed, remove the quad ring inside the pump body.
3. Replace the kit following the correct order shown in the assembly drawing.

Reassemble the pump in reverse order.



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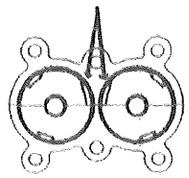
Ball valves replacement

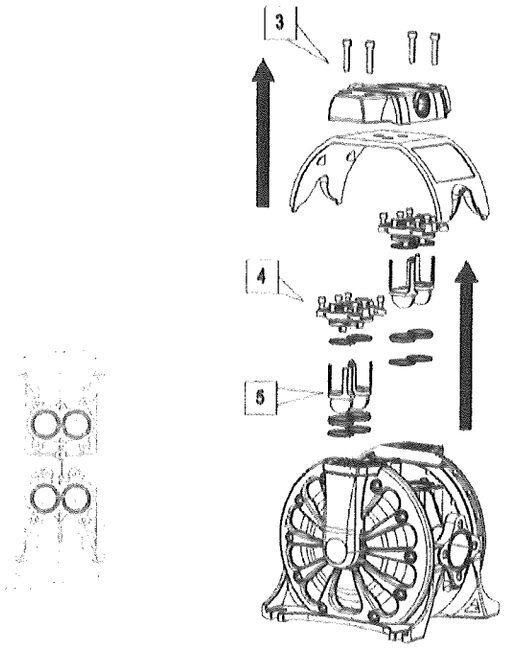
1. Close fluid valves.
2. Drain the fluid from inside the pump. Anticipate a drainage of fluid from inside the pump.
3. Loosen the screws to remove the directional valve. Take special care with the seals.
4. Remove the valve cover by loosening the screws with an Allen wrench. Take note of the orientation of the cap, as it is critical to replace it correctly during reassembly.

⚠ Attention

To avoid fluid restriction and leakages, follow the position of the ball checks guides in teh figure above. the valves cups must be placed with the area indicated in the figure below facing the body.



5. Install a new set of valves according to these assembly drawings. Ensure that the ball guides are assembled as shown in the figure on the left, and tighten the screws with a maximum torque (see torque table page 14).
6. Assemble the directional valve with being careful not to damage the O-rings and tighten the screws with a maximum torque of 44.25 lbf·in (5 N·m).

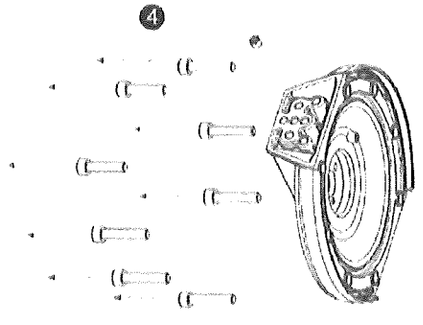


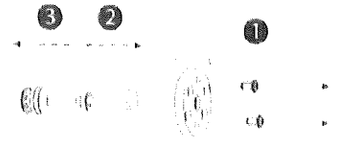
Air sensor (only for models with)

The air sensors are on the inside part of the diaphragm covers. To access them, follow the procedure for "Replacing diaphragms".

Once removed the covers following procedure:

1. Remove the two screws that secure the air sensor to the top.
2. Remove all components of the sensor. Clean the area.
3. Introduce new components in the order shown.
4. Fit the cover on the pump and tighten the screws to the body of the pump. Maximum tightening torque (see torque table page 14).
   Fit the remaining components in reverse order.





SAMOA

ELECTRONIC METER

Parts and technical service guide

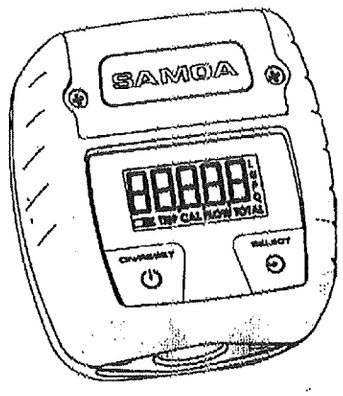
Part No.:
366 000

ESPAÑOL

FRANÇAIS

DEUTSCH

Introduction



WARNINGS

THIS UNIT IS INTENDED FOR PROFESSIONAL USE.
READ ALL THE INSTRUCTIONS IN THIS MANUAL PRIOR TO USE.

- The 366000 meter is an oval gear model.
- Only use the unit for the purposes for which it is intended.
- This unit has not been approved for use in commercial transactions.
- Do not alter or modify the unit.
- Do not exceed the maximum unit working pressure. See page 7, technical specifications.
- Use the unit with fluids and solutions which are compatible with the moist parts of the unit. See the relevant section of the technical specifications.
- Observe the manufacturer's safety warnings for the fluids used.
- The meter has been manufactured with low tolerances in order to ensure high precision over a wide range of flows and viscosity.
- Check measurement units counter before first use.
- In order to save energy the meter switches off automatically after 30 seconds of inactivity. All the data are stored for recovery once the meter has been restarted.

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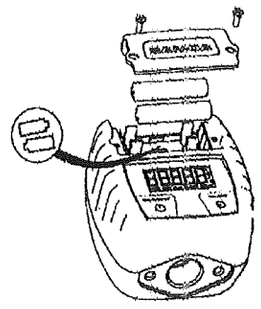
Installation

The meter can be connected to a control gun or installed directly in the distribution line pipe.
It is recommendable to install a cut-off valve before the meter to facilitate its maintenance or repair.
The meter has a 1/2" BSP connection at the inlet and outlet.
It also includes an inlet flange and a flange at the outlet with sealing for an O-ring seal which enables connection for the range of guns and original Samoa accessories
The meter requires two 1.5 V batteries and size LR 03 as the power supply source. They are housed in a support which, in conjunction with the lid design, prevents the batteries from being removed accidentally in the event of impacts or vibrations.

Batteries

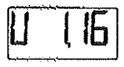


The location of the batteries is shown in the following figure:

WARNINGS

OBSERVE THE POLARITY INDICATED ON THE BATTERIES WHEN INSTALLING.
REMOVE THE BATTERY PROTECTIVE LABEL BEFORE FIRST USE.

When replacing the batteries the monitor briefly displays the meter software version.

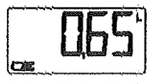


Charging status of the batteries

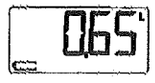
The meter shows the charging status of the batteries on the display.

If the meter does not switch on when pressing the ON/RESET button, or switches off after being pressed, replace the batteries with new ones.

BATTERIES OK



BATTERIES HALF CHARGED



BATTERIES EMPTY
REPLACE THE BATTERIES

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GB

SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 · Gijón · Spain, declares that the product(s): **366 000**
conform(s) with the EU Directive(s):
2004/108/EC

E

SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 · Gijón · España, declara que el(los) producto(s): **366 000**
cumple(n) con la(s) Directiva(s) de la Unión Europea:
2004/108/CE

F

SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 · Gijón · Espagne, déclare que la(s) produit(s): **366 000**
est(sont) conforme(s) au(x) Directive(s) de l'Union Européenne:
2004/108/CE

D

SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 · Gijón · Spanien, bestätigt hiermit, dass das (die) Produkt (e): **366 000**
der (den) EG-Richtlinie(n):
2004/108/EG
entspricht (entsprechen).

For SAMOA INDUSTRIAL, S.A.
Por SAMOA INDUSTRIAL, S.A.
Pour SAMOA INDUSTRIAL, S.A.
Für SAMOA INDUSTRIAL, S.A.

Pedro E. Prallong Álvarez

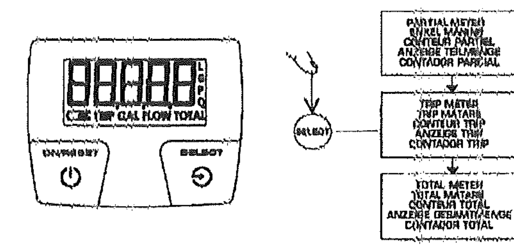
Production Director
Director de Producción
Directeur de Production
Produktionsleiter

IMPORTANT: Always read the instructions prior to using for the first time.

HANDLING

1 ON/RESET
Press once only to switch on the meter.
Keep pressed to reset the partial meter or the "Trip" to zero.

2 SELECT
Consecutively press to browse the various functions:



On/Off

- The meter is probably switched off when you wish to use it.
- Press the ON/RESET button to switch it on (fig. 1). The meter performs a check on the display by showing all the segments briefly (fig. 2) and then on the display shows a similar status to that shown (fig. 3).

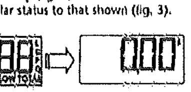


Fig. 1 Fig. 2 Fig. 3

- The display shows the partial meter.
- Although switched off, the meter automatically goes to an On status when detecting fluid flow and starts to record the quantity released by showing the partial meter.
- In order to save energy the meter switches off automatically after 30 seconds of inactivity. The registered data are stored.

Fluid release

- To release fluid, switch on the meter by pressing the ON/RESET button or simply start to release and the meter will automatically switch on by starting to register the fluid.
- If, after successive measurements, (fig. 4) you wish to set (fig. 6) the partial meter to zero, hold down the ON/RESET button for a while (fig. 5).

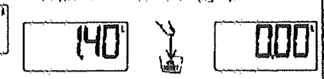


Fig. 4 Fig. 5 Fig. 6

- Each unit of volume released increases both the partial meter and the total meter.
- When the meter switches off, or the batteries are removed, the data of the last measurement taken are stored.

Operating mode

TRIP function

The meter is fitted with a "Trip" meter which shows the accumulated fluid volume released since the last "reset".

This function enables recording the register of the fluid volume released from a barrel or tank. Set the "Trip" meter to zero when starting a new barrel or tank and then perform the individual transactions with the partial meter. The partial meter can be reset since this will not affect the "Trip" meter. Thus in the "Trip" meter the volume released will be kept for all transactions since the last reset and the remaining volume in the barrel or tank can be ascertained.
When the meter is in normal status (partial meter) (fig. 7), the "Trip" meter can be shown by pressing the SELECT button (fig. 8).

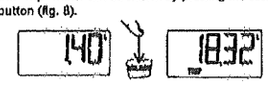


Fig. 7 Fig. 8 Fig. 9

The "Trip" meter (fig. 9) can be set to zero. To do so, keep the ON/RESET button for a while when in "Trip" mode.

The units shown in the "Trip" meter will be the same as for those selected for the partial meter.

To return to normal mode (partial meter), press the SELECT button twice in a row.

Total meter

- The meter is fitted with a Total meter which shows the accumulated the fluid volume released since the meter was put into operation for the first time. The Total meter cannot be reset.
- When the meter is in normal status (partial meter (fig. 10), the Total meter (fig. 13) can be shown by pressing the SELECT button (fig. 11) twice in a row.
- It is enough to press the SELECT button again (fig. 12 to return to the partial meter mode (fig. 10).
- The total meter does not take into account the quantities released during the calibration process.
- The changes in the calibration factor do not affect the value stored in the total meter.

Automatic meter reset

Both the partial meter and the total meter are reset to zero when reaching the value 99999.

Fig. 10 Fig. 11 Fig. 12 Fig. 13

Calibration

The meter is calibrated in the factory and does not normally require calibration for the oils generally used in workshops. Nevertheless, if using fluids with high or low viscosity, as well as if working with high flows or very low flows, calibration may be required.
Calibration may be required after having used the meter for a long time, especially if working with fluids with dirty residues.
Verify the precision of the meter prior to use and proceed with calibration if required.

In order to perform the calibration process correctly the following rules must be adhered to:

1. The calibration can be performed for any volume, however it is recommended for a minimum of 1 litre. As a maximum 25 litres can be used.
2. The container used must be calibrated and be completely empty (prior use of the container can easily leave behind 0,1 l even if it seems empty). Put the container upside down for a while, or clean it before starting the calibration process.
   If you would like a truly accurate calibration, you must use precision scales and know the density of the fluid. With the density data the volume to be released is converted (ahem.: 1, 2, 3 ..., litres) to mass units.
3. When the fluid is being released you must wait until all the air contained in it is eliminated. This can take some time. If precision scales are used the accumulation of air has no effect.

Calibration

Calibration capacity

After the calibration process you will obtain precision within the range of ±0,5% with the meter. If the meter exceeds this range it could be due to the following:

- Unsuitable container used for the calibration.
- The container is not empty before the calibration.
- Air in the fluid which has not been completely removed.
- The values are not properly introduced into the calibration process.

Calibration procedures

The calibration process is semi-automatic. To start the process, the meter must be in partial meter mode (fig. 14) and is accessed by simultaneously pressing the buttons ON/RESET and SELECT for 3 seconds (fig. 15). After releasing the buttons the current calibration factor is shown on the meter (fig. 16).

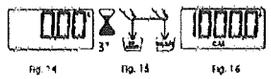


Fig. 14 Fig. 15 Fig. 16

If the screen does not show the correct measuring unit (fig. 16) press the SELECT button (fig. 17) successively until displaying the required unit (fig. 18).
Press ON/RESET (fig. 19) to start the calibration process (fig. 20).

Fig. 17 Fig. 18 Fig. 19 Fig. 20

It now starts to release the desired volume into the container. Remember that you must release at least 1 litre to perform a good calibration. In the example shown in the figures it is assumed that 2 litres are released according to the reading on the calibrated container and that the meter records 2,1 litres (fig. 21).

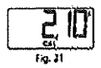


Fig. 21

To administer the real quantity released (which is that measured in the calibrated container or scales), press the ON/RESET button for 1 second (fig. 22). The digits start to flash (fig. 23) indicating that the value shown can be modified. Each press of the ON/RESET button increases the value by 0,1 litres and each press of the SELECT button (fig. 24) reduces this value by 0,1 litres (fig. 25).

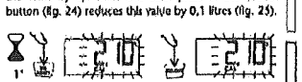


Fig. 22 Fig. 23 Fig. 24 Fig. 25

Once the real value released is set (fig. 25) press the ON/RESET button for 1 second (fig. 26). The meter shows the new stored calibration factor (fig. 27) and then exits the calibration process. The screen shows the partial meter with the units set during the calibration process (fig. 28).
If, during any phase of the calibration process, you wish to exit without saving the changes made you must press the SELECT button for 1 second. Likewise, if 30 seconds of inactivity elapse during the process, the meter switches off automatically and exits the calibration process without storing the data.

Fig. 26 Fig. 27 Fig. 28

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Change in measuring units

The meter can be configured to use litres [L], gallons [G], pints [P] or quarters [Q].
When making a change from one unit to another the conversion of the quantity stored is made both in the partial meter and in the total meter.

Setting the units
Set the partial meter mode in the meter (fig. 29). Proceed by simultaneously pressing the buttons ON/RESET and SELECT for 1 second (fig. 30) and release the buttons. "Unit" is shown on the meter display.
Press the SELECT button (fig. 31) to alternately change the units. Once the desired unit is set, press the ON/RESET button (fig. 32) to save the configuration and enter the normal meter mode.

If, during the unit change process 30 seconds elapse without the meter being pressed it will change to the OFF mode.

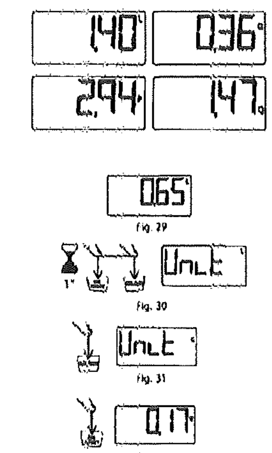


Fig. 29 · Fig. 30 · Fig. 31 · Fig. 32

WARNINGS

TO INSURE THAT THE REQUIRED QUANTITY OF FLUID IS RELEASED ALWAYS USE THE SAME MEASUREMENT UNIT FOR A SPECIFIC FLUID.
THE CHANGES IN UNITS MUST ONLY BE CARRIED OUT BY AUTHORISED EMPLOYEES.

Trouble shooting

Symptom	Possible cause	Solution
Blurred or unclear reading.	Batteries empty.	Replace the batteries.
The meter does not switch on.	Batteries empty.	Replace the batteries.
The meter is inaccurate.	Erroneous calibration factor.	Calibrate the meter.
	A fluid with very high or very low viscosity is being used.	Calibrate the meter.
	Very high or low fluid temperature.	Calibrate the meter.
	The meter is working outside its field of application (see technical specifications).	Restore the working conditions (flow, viscosity, temperature...) to those required by the meter.
Reduced flow.	Dirt in the measuring chamber.	Clean the measuring chamber.
The meter does not count.	Faulty read sensor.	Inform technical support.

Part list / Lista de recambios / Liste de pièces détachées

GB | E | FR

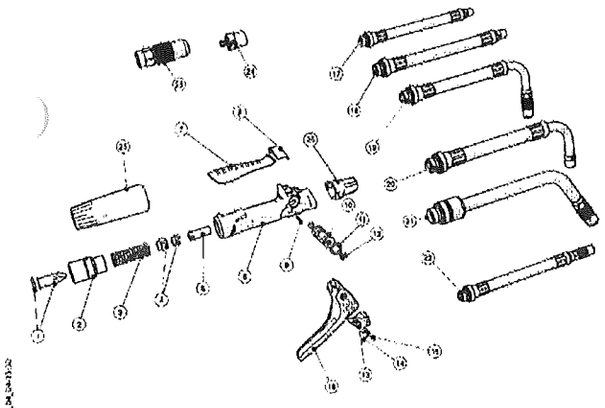
Pos.	Part No. / Cód. / Réf.	Description	Descripción	Description	Qty.
1	836404	O-ring Strainer	Junta tórica Filtro	Joint torique Filtre	1 1
2	736628	Swivel	Rótula	Raccord tournant	1
3	836306	Spring	Muelle	Ressort	1
4	736608 836500	Valve	Válvula	Vanne	1 1
5	836470	Rod	Empujador	Poussoir	1
6	736118	Body	Cuerpo pistola	Corps de la poignée	1
7	896600	Grip	Empuñadura	Protection antidérapante	1
8	896601	Cover	Tapa personalizable	Carter personnalisable	1
9	943041	Pin	Pasador elástico	Goupille élastique	1
10	836116	Cam	Eje de giro	Came	1
11	946058	O-ring	Junta tórica	Joint torique	2
12	940527	Self tapping screw	Tornillo	Vis de serrage	2
13	896603	Lock/unlock button	Botón de bloqueo	Bouton de blocage / déblocage	1
14	836308	Trigger spring	Muelle de bloqueo	Ressort de gâchette	1
15	943046	Pin	Pasador elástico	Goupille élastique	1
16	836117	Trigger	Gatillo	Gâchette	1
17	369224	Flexible outlet with automatic non-drip tip	Extensión flexible con boquilla antigoteo automática	Flexible droit et bec anti-goutte automatique	1
18	369226	Flexible formable outlet with automatic non-drip tip	Extensión flexible conformable con boquilla antigoteo automática	Flexible adaptable droit et bec anti-goutte automatique	1
19	369228	Flexible outlet with quarter turn opening non-drip tip	Extensión flexible a 90° con boquilla antigoteo manual de apertura cuarto de vuelta	Flexible coudé à 90° et bec anti-goutte manuel ouverture quart de tour	1
20	369230	Flexible outlet with automatic non-drip tip	Extensión flexible a 90° con boquilla antigoteo automática	Flexible coudé à 90° et bec anti-goutte automatique	1
21	369232	Rigid outlet with quarter turn opening non-drip tip	Extensión rígida a 60° con boquilla antigoteo manual de apertura cuarto de vuelta	Extension à 60° et bec anti-goutte manuel ouverture quart de tour	1
22	369234	Flexible formable outlet with quarter turn opening non-drip tip	Extensión flexible conformable con boquilla antigoteo manual de apertura cuarto de vuelta	Flexible adaptable droit et bec anti-goutte manuel ouverture quart de tour	1
23	369232	Quarter turn opening non-drip tip	Boquilla antigoteo de apertura cuarto de vuelta	Bec anti-goutte manuel ouverture quart de tour	1
24	369231	Automatic non-drip tip	Boquilla antigoteo automática	Bec anti-goutte automatique	1
25	896604	Swivel cover	Protector de rótula	Protection de raccord tournant	1
26	736630	Outlet flange cover	Protector de brida	Protection de bride	1

Troubleshooting / Anomalías y soluciones / Problèmes et solutions

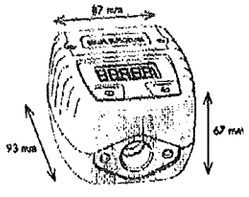
FR

Problème	Cause	Solution
Débit faible.	Le filtre est bouché, s'il est installé (option).	Nettoyer ou remplacer le filtre.
	La pression de la pompe est trop basse.	Augmenter la pression d'air de la pompe.
La vanne fuit.	Le joint de la vanne est endommagé.	Démonter la vanne pour la contrôler. Si elle n'est pas endommagée, nettoyer le siège de la vanne. Ou alors, remplacer la vanne.
	Corps étranger sur le joint de la vanne.	
Fuites au niveau de la came.	Le joint torique est endommagé.	Remplacer le joint en respectant les instructions.
Fuites au niveau du raccord tournant.	Le raccord est dévissé.	Resserrer le raccord tournant.
	Le joint torique du raccord est endommagé.	Remplacer le joint.

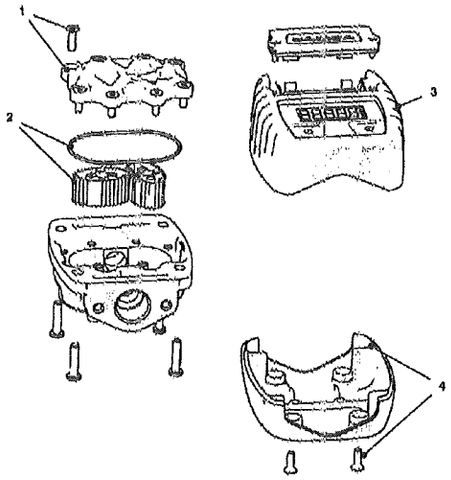
Part list / Lista de recambios / Liste de pièces détachées



Technical Specifications

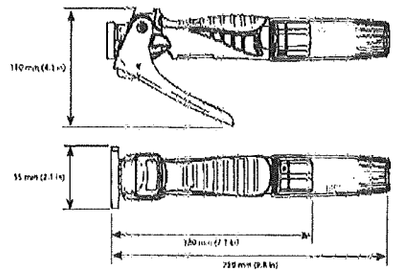
Type	Oval gear meter.
Functions	Partial meter, "Trip" meter, Total meter, change in the measurement unit, calibration.
Moist part materials	Aluminium, Acetal, NBR, Stainless Steel.
Inlet connection	1/2" BSP and flange.
Outlet connection	1/2" BSP and flange with fasting for O-ring.
Maximum working pressure	100 bar.
Burst pressure	150 bar.
Compatible fluids	Oil, glycol and coolant solutions.
Flow	1 to 30 l/min (depending on the viscosity of the fluid and temperature).
Viscosity range	8 a 2000 cSt.
Operating temperature	-10 °C a 60 °C.
Precision	±0,5%.
Display	LCD with 5 digits and 2 decimal positions.
Measurement units	Litres, gallons, quarters, pints.
Display dimensions	20 x 41,5 mm.
Display view angle	170°.
Display resolution	0,01 for litre, gallon and quarter units.
	0,02 for pint units.
Power supply	Two 1,5 V batteries, IEC LI103 / ANSI AAA.
Consumption	Rated operation: 1 mA.
	Standby mode: 10 µA.
Pulse ratio	164 ppl.
Pushbutton actuation force	160 gr.
Weight	535 gr.
Dimensions	

Spare Parts



Pos.	Part No.	Description	Qty.
1	940200	Countersunk screw	8
	836112	Measuring chamber lid	1
2	946137	O-ring	1
	860814	Oval gear	2
	836467	Magnet	2
3	836200	Electronic card	1
	836609	Casing	1
	940524	Screw with plastic thread PCB	4
	940523	Screw with plastic thread casing	4
4	836649	Fairing	1
	940526	Self-tapping screw	4

Dimensions - Dimensiones - Dimensions



Troubleshooting - Anomalías y soluciones - Problèmes et solutions

GB

Problem	Cause	Solution
Slow flow.	Strainer clogged, if it is installed (optional).	Clean or replace strainer.
	Pump pressure is low.	Increase pump air pressure.
Valve leaks.	Valve seal worn or damaged.	Disassemble the valve for inspection. If it is not damaged, clean seat valve. Otherwise, replace the valve.
	Foreign material on valve seal.	
Leakage at cam.	O-ring worn or damaged.	Replace o-ring according to instructions.
Leakage at swivel.	The swivel is loose.	Tighten swivel assembly.
	Swivel o-ring worn or damaged.	Replace o-ring.

E

Síntoma	Posible causa	Solución
Disminución de caudal.	Obstrucción del filtro, si lo incorpora (opcional).	Extraiga filtro para limpieza.
	Presión de la bomba baja.	Aumente presión en la bomba.
No corta el suministro de aceite.	Junta de la válvula deteriorada.	Extraiga la válvula para inspeccionar su estado. Si no presenta daños, limpie el asiento de la junta. En caso contrario, sustituya la válvula.
	Impurezas en el asiento de la junta de válvula.	
Fuga aceite por el eje del gatillo.	Junta tórica deteriorada.	Sustituya la tórica según instrucciones de montaje.
Fuga aceite por la rótula.	La rótula no está bien apretada.	Reapriete la tuerca de la rótula.
	Junta tórica de rótula dañada.	Reemplace la junta.

Filter replacement · Sustitución del filtro · Remplacement du filtre

GB

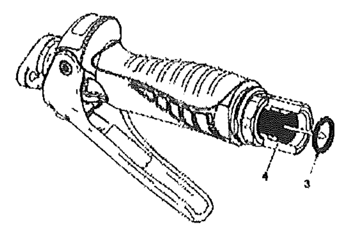
Remove the o-ring (3) fixing the filter (4) and then filter.
Check the filter and cleaning it or replacing as necessary. Place again the filter with the o-ring and install the hose with the swivel cover (optional).

E

Extraiga la junta tórica (3) que fija el filtro (4) y a continuación el filtro.
Revise el filtro y proceda a su limpieza o sustitución en caso necesario. Fije de nuevo el filtro con la junta tórica y monte la manguera y el protector de rótula.

FR

Démonter le joint torique (3) qui retient le filtre (4) et ensuite retirer le filtre.
Contrôler le filtre et le nettoyer ou le remplacer si nécessaire. Remettre en place le filtre et le joint torique, revisser le tuyau, ainsi remettre la protection de raccord (en option).



Technical specifications · Especificaciones técnicas · Spécifications techniques

GB **E** **FR**

Maximum flow rate	Caudal máximo	Débit maximum	**40 l/min (4.5 gpm)**
Maximum working pressure	Presión máxima de trabajo	Pression maximale de travail	**100 bar (1450 psi)**
Operating temperature range	Rango de temperatura de funcionamiento	Températures limites d'utilisation	**-10 °C to 70 °C (14 °F to 158 °F)**
Burst pressure	Presión de rotura	Pression d'explosion	**400 bar (5800 psi)**
Fluid inlet	Conexión de entrada	Entrée de fluide	**1/2" BSP**
Fluid outlet	Conexión de salida	Sortie de fluide	**1/2" BSP and flange with o-ring groove / 1/2" BSP y brida con alojamiento para junta tórica / 1/2" BSP et bride avec logement pour joint torique**
Wetted parts	Materiales partes húmedas	Revêtement des pièces humides	**Aluminium, NBR, zinc plated steel / Aluminio, NBR, acero cincado / Aluminium, NBR, acier revêtu de zinc**
Fluid compatibility	Fluidos compatibles	Fluide compatibles	**Oil, glycol, anti-freeze / Aceite, glicol y anticongelante / Huile, glycol, antigel**
Weight	Peso	Poids	**500 g (1.1 lb)**

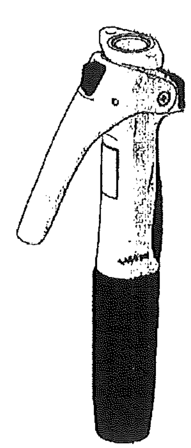
OIL CONTROL HANDLE
PISTOLA DE ACEITE
POIGNEE DE DISTRIBUTION

SAMOA®

Parts and technical service guide
Guía de servicio técnico y recambio
Guide d'instructions et pièces de rechange

Part No. / Cód. / Réf.:
363 100

Introduction · Introducción · Introduction



GB

- This unit is intended for professional use. Read all the instructions in this manual prior to use.
- Only use the unit for the purposes for which it is intended.
- Do not alter or modify the unit.
- Do not exceed the maximum unit working pressure. See page 10 of the technical specifications.
- Use the unit with fluids and solutions which are compatible with the moist parts of the unit. See the relevant section of the technical specifications.
- Observe the manufacturer's safety warnings for the fluids used.

WARNING

RELEASE ALL PRESSURE WITHIN THE SYSTEM PRIOR TO PERFORMING ANY MAINTENANCE OR DISASSEMBLY OPERATION.

E

- Este equipo está destinado a uso profesional. Lea todas las instrucciones de este manual antes de su uso.
- Use el equipo sólo para los fines a los que está destinado.
- No altere o modifique el equipo.
- No exceda la presión máxima de trabajo del equipo. Vea página 10 de especificaciones técnicas.
- Use el equipo con fluidos y soluciones compatibles con las partes húmedas del equipo. Vea sección de especificaciones técnicas.
- Atienda las advertencias de seguridad del fabricante de los fluidos empleados.

ADVERTENCIA

ANTES DE REALIZAR CUALQUIER OPERACIÓN DE DESMONTAJE DE LA PISTOLA ASEGÚRESE DE QUE NO EXISTE PRESIÓN EN EL CIRCUITO.

FR

- Cet appareil est destiné à un usage professionnel. Bien lire les instructions de ce manuel avant toute utilisation.
- N'utilisez cet appareil que pour l'usage auquel il est destiné.
- Ne pas altérer ou modifier cet appareil.
- Ne pas dépasser la pression maximale de travail de l'appareil. Se reporter à la page 10 des spécifications techniques.
- N'utiliser que des fluides et des solutions qui soient compatibles avec les pièces qui composent l'appareil. Se reporter à la section des spécifications techniques.
- Respecter les règles de sécurité du fabricant des fluides utilisés.

AVERTISSEMENT

COUPER LA PRESSION DU SYSTÈME AVANT DE RÉALISER UNE OPÉRATION DE MAINTENANCE, OU UN DÉMONTAGE DE L'APPAREIL.

Description · Description · Description

GB

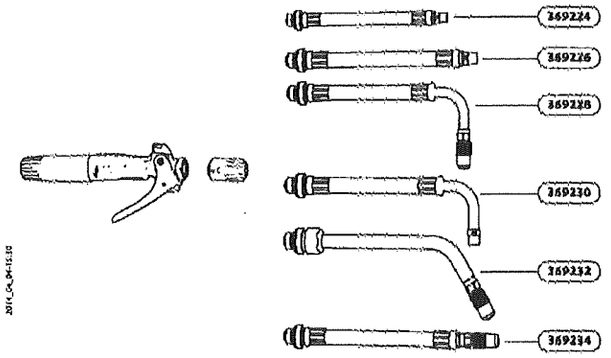
The control valve is designed to dispense a variety of fluid lubricants and antifreeze fluid.
The control handle allows a progressive opening valve for better control of oil delivery. The valve can be locked in open position by means of the trigger button.
The gun includes protection to prevent accidental opening. Refer to the operation section for details of operation.
All guns include 1/2" BSP threaded swivel, a swivel cover and nozzle extension outlet with automatic or quarter turn opening non-drip tip.

E

La pistola de control ha sido diseñada para dispensar aceite y anticongelante.
La válvula de la pistola permite un accionamiento progresivo para un óptimo control del caudal de entrega. Mediante el botón situado en el gatillo es posible bloquear la válvula en posición abierta.
La pistola tiene una protección para impedir la apertura accidental. Consulte el apartado de operación para detalles de funcionamiento.
Todas las pistolas incorporan rótula giratoria con rosca 1/2" BSP, un protector de rótula y extensión con boquilla automática o manual de apertura cuarto de vuelta.

FR

La poignée de distribution est conçue pour distribuer tous types de lubrifiants et de liquides de refroidissement.
La poignée de distribution possède une ouverture progressive qui permet un meilleur contrôle du débit. La vanne peut être bloquée en position ouverte au moyen de la gâchette.
Le pistolet comporte une protection afin d'éviter toute ouverture accidentelle. Se reporter à la section « Fonctionnement » pour plus de détails sur l'utilisation de la poignée.
Tous les pistolets sont équipés d'un raccord tournant 1/2" BSP à roulement à billes, une protection du raccord tournant et un flexible de sortie avec bec anti-gouttes automatique ou manuel ouverture quart de tour.



Filter replacement · Sustitución del filtro · Remplacement du filtre

GB

WARNING

RELEASE ALL PRESSURE WITHIN THE SYSTEM AND DISCONNECT THE AIR SUPPLY TO THE PUMP PRIOR TO PERFORMING STRAINER REPLACEMENT. DISCHARGE PRESSURE OPERATING THE GUN INTO AN APPROPRIATE CONTAINER AND OPEN ANY BYPASS TYPE AIR VALVES AND FLUID DRAIN VALVES IN THE SYSTEM IF NECESSARY.

The gun can be provided with a strainer (optional). To inspect strainer or make replacement read the following procedure. Remove the cover (1) (optional) of the swivel and loosen the nut (2) of the hose.

E

ADVERTENCIA

ANTES DE REALIZAR LA SUSTITUCIÓN DEL FILTRO ASEGÚRESE DE QUE NO HAY PRESIÓN EN EL CIRCUITO Y QUE LA BOMBA SE ENCUENTRA DESCONECTADA. LIBERE PRESIÓN ACCIONANDO LA PISTOLA EN UN RECIPIENTE Y ACTÚE SOBRE VÁLVULAS DE DERIVAR SI ES NECESARIO.

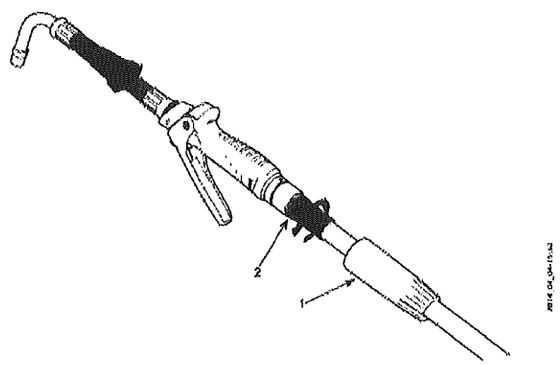
La pistola puede estar provista de un filtro (opcional). Para revisar su estado o realizar su sustitución siga el siguiente procedimiento.
Retire el protector (1) (opcional) de la rótula, en caso de estar montado, y afloje la tuerca (2) de la manguera.

FR

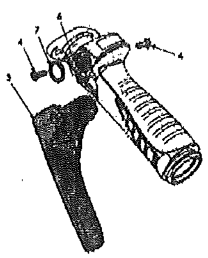
AVERTISSEMENT

COUPER LA PRESSION DU SYSTÈME ET DÉCONNECTER L'ALIMENTATION EN AIR DE LA POMPE AVANT DE REMPLACER LE FILTRE.
FAIRE BAISSER LA PRESSION EN VIDANT LE PISTOLET DANS UN RÉCIPIENT ET OUVRIR TOUT TYPE DE VANNE D'AIR DE DÉRIVATION OU DE VIDANGE DE FLUIDE QUI SOIT PRÉSENT DANS LE SYSTÈME, SI NÉCESSAIRE.

Le pistolet peut être équipé d'un filtre (en option). Pour inspecter ou remplacer le filtre, suivre la procédure suivante.
Démonter la protection (1) (en option) du raccord et dévisser l'écrou (2) du tuyau.

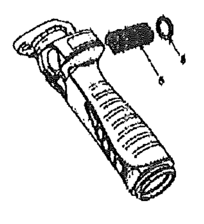


Cam dissasembly / Desmontaje del eje de giro / Démontage de la came



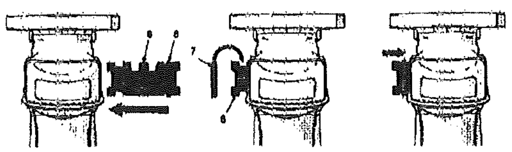
ES

Proceda en primer lugar al desmontaje de la válvula según lo descrito en el apartado anterior.
Quite a continuación los tornillos del eje de giro (4) y extraiga el gatillo (5).
Para no dañar las juntas tóricas, saque por un extremo el eje de giro (6) hasta que asome sólo la junta de ese lado (7). Extraiga la tórica (7) y a continuación saque totalmente el eje con la otra junta tórica (8) por el lado contrario.
Para realizar el montaje proceda a la inversa poniendo especial atención en el montaje de las juntas tóricas del eje de giro.
Para evitar dañar las juntas en el montaje del eje debe montar una sola tórica (8) en el eje (6) e introducirlo en la pistola por el extremo sin junta. Deslice el eje hasta que el extremo sin junta asome por el otro lateral de la pistola, con especial cuidado de que sólo sobresalga la cajera de la junta. Introduzca la junta (7) y coloque el eje en su posición.



FR

Avant de démonter la came, procéder au démontage de la vanne comme décrit dans la section précédente.
Ensuite, dévisser les vis de la came (4) et retirer la gâchette (5). Pour éviter d'endommager les joints toriques, pousser vers l'extérieur la came (6) d'un coté jusqu'à ce que le joint (7) soit visible. Retirer le joint torique (7) et ensuite démonter complètement la came avec l'autre joint (8), du coté opposé.
Pour le remontage, procéder en sens inverse en prenant soin de bien remettre les joints toriques de la came.
Pour éviter d'endommager les joints toriques lors du remontage de la came, un seul joint (8) doit être remis sur la came (6) et ensuite placer la came dans le pistolet, par l'extrémité sans joint. Faire glisser la came jusqu'à ce que l'extrémité sans joint apparaisse de l'autre coté du pistolet, en faisant bien attention que seul ressorte la cannelure qui recevra l'autre joint. Remettre le joint (7) et replacer la came.



GB

Part No.	Description	Extension
363112	Oil control handle with flexible outlet and automatic non-drip tip	369224
363113	Oil control handle with flexible formable outlet and automatic non-drip tip.	369226
363114	Oil control handle with 90° flexible outlet and quarter turn opening non-drip tip.	369228
363115	Oil control handle with 90° flexible outlet and automatic non-drip tip.	369230
363116	Oil control handle with 60° rigid outlet and quarter turn opening non-drip tip.	369232
363117	Oil control handle with flexible formable outlet and quarter turn opening non-drip tip.	369234

E

Cód.	Descripción	Extensión
363112	Pistola de control de aceite con extensión flexible y boquilla antigoteo automática.	369224
363113	Pistola de control de aceite con extensión flexible conformable y boquilla antigoteo automática.	369226
363114	Pistola de control de aceite con extentión flexible a 90° y boquilla antigoteo manual de apertura cuarto de vuelta.	369228
363115	Pistola de control de aceite con extensión flexible a 90° y boquilla antigoteo automática.	369230
363116	Pistola de control de aceite con extensión rígida a 60° y boquilla antigoteo manual de apertura cuarto de vuelta.	369232
363117	Pistola de control de aceite con extensión flexible conformable y boquilla antigoteo manual de apertura cuarto de vuelta.	369234

FR

Réf.	Description	Extension
363112	Poignée de distribution d'huile avec flexible droit et bec anti-goutte automatique.	369224
363113	Poignée de distribution d'huile avec flexible adaptable droit et bec anti-goutte automatique.	369226
363114	Poignée de distribution d'huile avec flexible coudé à 90° et bec anti-goutte manuel ouverture quart de tour.	369228
363115	Poignée de distribution d'huile avec flexible coudé à 90° et bec anti-goutte automatique.	369230
363116	Poignée de distribution d'huile avec rigide extension à 60° et bec anti-goutte manuel ouverture quart de tour.	369232
363117	Poignée de distribution d'huile avec flexible adaptable droit et bec anti-goutte manuel ouverture quart de tour.	369234

Mounting and installation / Montaje e instalación / Montage et installation

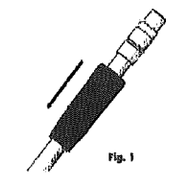


Fig. 1

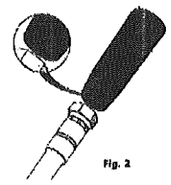


Fig. 2

GB

To ensure the sealing, mount the extension outlet using the provided o-ring, taking care that the position of the o ring in the flange housing is correct.
Lubricate the o-ring before mounting (fig. 4).
Attach the swivel cover to the hose before installing the oil gun in the system. The swivel cover is compatible with 1/2" hoses, either with male fixed terminal or swivel nut (fig. 1).
Depending on the type of terminal hose may be necessary to open the end of the swivel cover to allow its passage through the hose. The swivel cover has a slot at its end for easy opening (fig. 2).
To connect the gun to the network, keep fixed the gun body and the end of the hose while rotate the free end of the swivel to achieve the desired torque (fig. 3).

E

Para asegurar la estanqueidad, monte la extensión utilizando la junta tórica suministrada y teniendo especial cuidado de que la junta permanezca en su alojamiento en la salida del cuerpo de pistola o contador (fig. 4).
Lubrique la tórica previo al montaje.
Previamente a la conexión, a la red de la pistola, debe acoplar el protector de rótula a la manguera. El protector de rótula es compatible con mangueras de 1/2" con terminal macho fijo o tuerca loca (fig. 1).
En función del tipo de terminal de la manguera puede ser necesario abrir el extremo del protector para permitir su deslizamiento por la manguera. El protector posee una ranura en su extremo que facilita su apertura (fig. 2).
Para conectar la pistola a la red, mantenga fijo el cuerpo de la pistola y el extremo de la manguera mientras se hace girar el extremo libre de la rótula hasta lograr el apriete deseado (fig. 3).

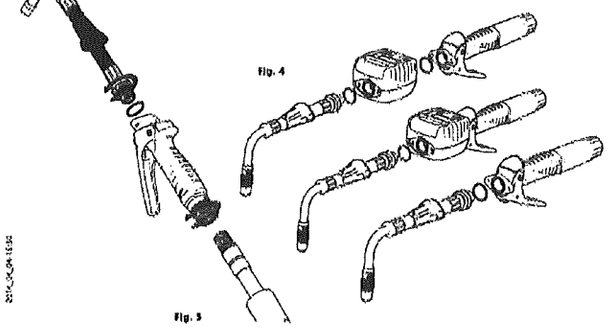


Fig. 3

Fig. 4

Maintenance / Mantenimiento / Maintenance

Valve disassembly / Desmontaje de la Válvula / Démontage de la vanne

GB

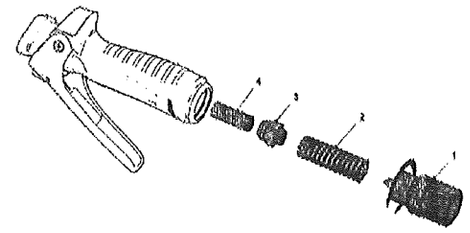
Loosen and remove the swivel (1), then remove the spring (2), the valve (3) and the rod (4).

E

Afloja y retire la rótula (1) para extraer el muelle (2), la válvula (3) y el empujador (4).

FR

Dévisser et retirer le raccord (1), ensuite démonter le ressort (2) la vanne (3) et la tige (4).



Cam disassembly / Desmontaje del eje de giro / Démontage de la came

GB

Proceed first to the disassembly of the valve as described in the previous section.
Then remove the screws of the cam (4) and remove the trigger (5).
To avoid damaging the o rings, push out the cam (6) on one side until only the o-ring of that side (7) is visible. Remove the o-ring (7) and then fully remove the cam with the other o ring (8) on the opposite side.
To reverse, proceed the other way around taking care in the assembly of the o-rings of the cam.
To avoid damage to the o-rings in the cam assembly, it must be mounted a single ring (8) on cam (6) and then place the cam in the gun by the end without o-ring. Slide the cam until the end without o ring appears on the other side of the gun, with special care that only the groove of the o-ring stands, introduce the o-ring (7) and place the shaft in position.

Mounting and installation / Montaje e instalación / Montage et installation

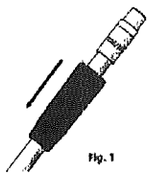


Fig. 1

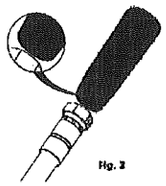


Fig. 2

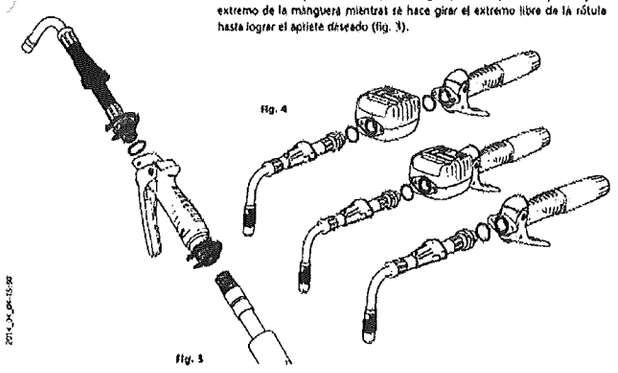


Fig. 3

GB

To ensure the sealing, mount the extension outlet using the provided o-ring, taking care that the position of the o-ring in the flange housing is correct.
Lubricate the o-ring before mounting (fig. 4).
Attach the swivel cover to the hose before installing the oil gun in the system.
The swivel cover is compatible with 1/2" hoses, either with male fixed terminal or swivel nut (fig. 1).
Depending on the type of terminal hose may be necessary to open the end of the swivel cover to allow its passage through the hose. The swivel cover has a slot at its end for easy opening (fig. 2).
To connect the gun to the network, keep fixed the gun body and the end of the hose while rotate the free end of the swivel to achieve the desired torque (fig. 3).

E

Para asegurar la estanqueidad, monte la extensión utilizando la junta tórica suministrada y teniendo especial cuidado de que la junta permanezca en su alojamiento en la salida del cuerpo de pistola o contador (fig. 4).
Lubrique la tórica previo al montaje.
Previamente a la conexión a la red de la pistola, debe acoplar el protector de rótula a la manguera. El protector de rótula es compatible con mangueras de 1/2" con terminal macho fijo o tuerca loca (fig. 1).
En función del tipo de terminal de la manguera puede ser necesario abrir el extremo del protector para permitir su deslizamiento por la manguera. El protector posee una ranura en su extremo que facilita su apertura (fig. 2).
Para conectar la pistola a la red, mantenga fijo el cuerpo de la pistola y el extremo de la manguera mientras se hace girar el extremo libre de la rótula hasta lograr el apriete deseado (fig. 3).

Fig. 4

Fig. 5

Maintenance / Mantenimiento / Maintenance

Valve disassembly / Desmontaje de la Válvula / Démontage de la vanne

GB

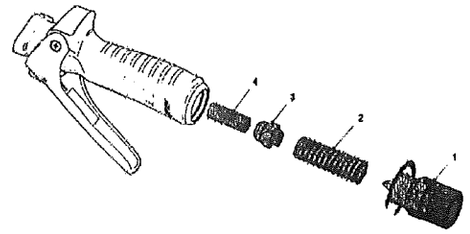
Loosen and remove the swivel (1), then remove the spring (2), the valve (3) and the rod (4).

E

Afloje y retire la rótula (1) para extraer el muelle (2), la válvula (3) y el empujador (4).

FR

Dévisser et retirer le raccord (1), ensuite démonter le ressort (2) la vanne (3) et la tige (4).



Cam disassembly / Desmontaje del eje de giro / Démontage de la came

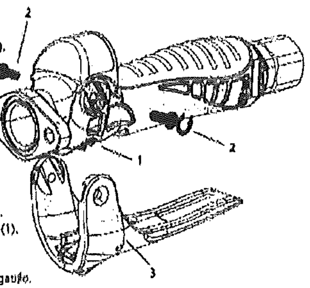
GB

Proceed first to the disassembly of the valve as described in the previous section.
Then remove the screws of the cam (4) and remove the trigger (5).
To avoid damaging the o-rings, push out the cam (6) on one side until only the o-ring of that side (7) is visible. Remove the o-ring (7) and then fully remove the cam with the other o-ring (8) on the opposite side.
To mount, proceed the other way around taking care in the assembly of the o-rings of the cam.
To avoid damage to the o-rings in the cam assembly, it must be mounted a single ring (8) on cam (6) and then place the cam in the gun by the end without o-ring. Slide the cam until the end without o-ring appears on the other side of the gun, with special care that only the groove of the o-ring stands. Introduce the o-ring (7) and place the shaft in position.

Supply lock override · Anulación del bloqueo de suministro · Annulation du blocage de débit

GB

Use the following procedure to remove the pin:



1- Loosen the trigger fixing screws (2) and pull the trigger (3).
2- Using a hammer and a punch remove the pin (1).
3- Reassemble the trigger (3) and tighten the screws (2).
4- Check that the trigger opens and closes properly.
Over-tightening the screws (2) may block the trigger.

E

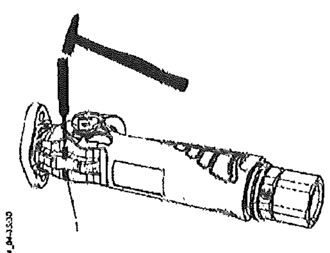
Siga el siguiente procedimiento para desmontar el pasador:

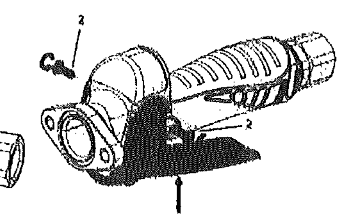
1- Afloje los tornillos (2) de sujeción del gatillo (3) y extraerlo.
2- Con ayuda de un martillo y un botador extraer el pasador (1).
3- Monte de nuevo el gatillo (3) y apretar los tornillos (2).
4- Verifique que el gatillo abre y cierra correctamente.
Un apriete excesivo de los tornillos (2) podría bloquear el gatillo.

FR

Veuillez suivre les instructions suivantes pour retirer le goupille:

1- Désserrez les vis (2) qui serrent la gâchette (3) et enlevez-la.
2- A l'aide d'un marteau et d'un repoussoir, retirez le goupille (1).
3- Assemblez à nouveau la gâchette (3) et resserrez les vis (2).
4- Vérifiez que l'ouverture et la fermeture de la gâchette s'effectue correctement.
Un serrement excessif des vis (2) pourrait bloquer la gâchette.





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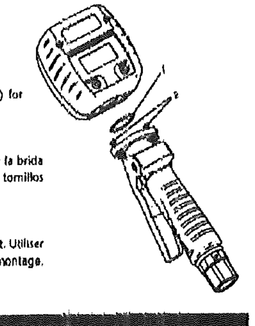
Mounting and installation · Montaje e instalación · Montage et installation

FR

Pour assurer un joint d'étanchéité, monter l'extension en utilisant le joint torique fourni, en prenant soin de vérifier que le joint torique en sortie de pistolet ou compteur soit bien placé dans son logement (fig. 4). Graisser le joint torique avant le montage.
Enfiler la protection du raccord tournant sur le tuyau avant d'installer la poignée de distribution au réseau.
La protection du raccord tournant est compatible avec les tuyaux 1/2", avec des raccords mâles ou des écrous du même diamètre (fig. 1).
En fonction du type de tuyau de sortie, il peut être nécessaire d'ouvrir l'extrémité de la protection pour permettre son passage sur le tuyau. La protection du raccord comporte une fente à son extrémité qui facilite son ouverture (fig. 2).
Pour connecter le pistolet au réseau, maintenir l'extrémité du corps de la poignée et l'extrémité du tuyau, et visser en même temps le raccord tournant pour le serrer (fig. 3).

GB

A flow meter can be attached to the gun by means of the flange.
Employ a 24 x 2 mm size o-ring (1) and two M5 x 14 screws (2) for mounting.



E

Un medidor de caudal puede ser acoplado a la pistola por medio de la brida de la pistola. Emplee una junta tórica (1) de tamaño 24 x 2 mm y dos tornillos (2) de M5 x 14 para el montaje.

FR

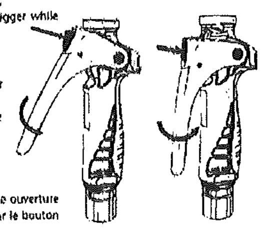
Un débitmètre peut être couplé à l'pistolet à travers la bride du pistolet. Utiliser un joint torique (1) de 24 x 2 mm et deux vis (2) de M5 x 14 pour le montage.

Operation · Funcionamiento · Fonctionnement

Dispensed / Dispensado / Distribution

GB

The gun has a safety lock system that prevents accidental opening.
To begin dispensing fluid, push the button on the top of the trigger while pulling the trigger toward gun handle to open the valve.



E

La pistola posee un sistema de bloqueo de seguridad que impide la apertura accidental.
Para comenzar a dispensar fluido, presione el botón situado en la parte superior del gatillo mientras acciona el gatillo para abrir la válvula.

FR

La gâchette possède un verrou de sécurité qui permet d'éviter une ouverture accidentelle. Pour commencer la distribution du fluide, appuyer sur le bouton en haut de la gâchette et la tirer en même temps pour ouvrir la vanne.

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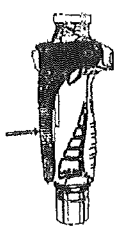
Open valve lock position / Bloqueo en posición válvula abierta / Blocage de la vanne en position ouverte

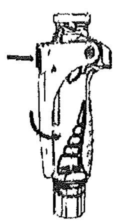


GB

To lock the valve in fully open position, first you must pull the trigger to its maximum opening.

Then press the button and hold it pressed while releasing the trigger until it is locked. At this point you can release the trigger and the valve will remain open.

When the gun is locked in open valve position to unlock it you must press the trigger again without pressing the button. Then release the trigger and it backs to its original position, closing the valve.



E

Para bloquear la válvula en posición totalmente abierta, en primer lugar se debe accionar el gatillo hasta su máxima apertura.

A continuación presione el botón y con éste presionado suelte el gatillo hasta que quede bloqueado. En este instante puede soltar el gatillo y la válvula permanecerá abierta.

Cuando la pistola se encuentra bloqueada en posición de válvula abierta para realizar el desbloqueo debe volver a presionar el gatillo, sin accionar el botón, y soltarlo con lo que retrocede a su posición original, cerrando la válvula.

FR

Pour bloquer la vanne en position ouverte, vous devez d'abord appuyer sur la gâchette au maximum.

Ensuite, appuyer sur le bouton et le maintenir pendant que vous relâchez la gâchette jusqu'à ce qu'il soit bloqué. Après cette manipulation, vous pouvez relâcher la gâchette et la vanne restera en position ouverte.

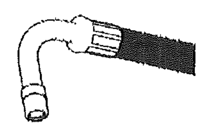
Lorsque le pistolet est verrouillé en position ouverte, pour le débloquer, vous devez appuyer sur la gâchette sans appuyer sur le bouton de verrouillage. Ensuite relâcher la gâchette et elle retournera à sa position d'origine, en refermant la vanne.

2014_04_04-15:30

Nozzle operation / Manejo de la boquilla / Utilisation de l'anti-goutte

GB

The opening of the automatic nozzle is performed automatically when the fluid begins to flow. When fluid dispensing ends, the nozzle is closed automatically.
The opening and closing of the manual nozzle is performed turning quarter turn the end clockwise and counterclockwise respectively.



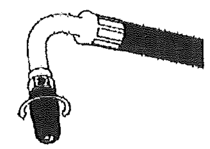
Automatic nozzle / Boquilla automática / Anti-goutte automatique

E

La apertura de la boquilla automática se realiza automáticamente cuando se comienza a dispensar fluido. Cuando se para el suministro, la boquilla se cierra automáticamente. La apertura y cierre de la boquilla manual se realiza girando un cuarto de vuelta el extremo en sentido horario y antihorario respectivamente.

FR

L'ouverture de l'anti-goutte s'effectue automatiquement lorsque le fluide commence à s'écouler. Lorsque la distribution de fluide se termine, l'anti-goutte se referme automatiquement.
L'ouverture du bec manuel se fait en tournant quart de tour l'extrémité dans le sens antihoraire, et la fermeture en tournant dans le sens des aiguilles d'une montre.

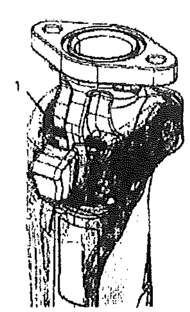


Quarter turn manual nozzle / Boquilla manual cuarto de vuelta / Anti-goutte manuel quart de tour

Supply lock override / Anulación del bloqueo de suministro / Annulation du blocage de débit

GB

Depending on the model, the oil gun can be supplied as standard with a pin (1) to lock the trigger in the open position.
To avoid the trigger can be locked in the open position is necessary to remove the pin (1).



E

Dependiendo del modelo, la pistola puede suministrarse con un pasador (1) que permite bloquear el gatillo en posición de apertura.
Para impedir que el gatillo pueda bloquearse en posición de apertura es necesario que desmonte el pasador (1).

FR

En fonction du modèle, la poignée peut être muni e d'un rivet (1) qui permet de bloquer la gâchette en position d'ouverture.
Pour éviter que la gâchette ne se bloque en position d'ouverture, il est nécessaire de retirer le rivet.

2014_04_04-15:30

SAMSON	**AIR-OPERATED DIAPHRAGM PUMP** **BOMBA NEUMÁTICA DE DIAFRAGMA**	
	Parts and technical service guide Guía de servicio técnico y recambio	Ref.: **2845**

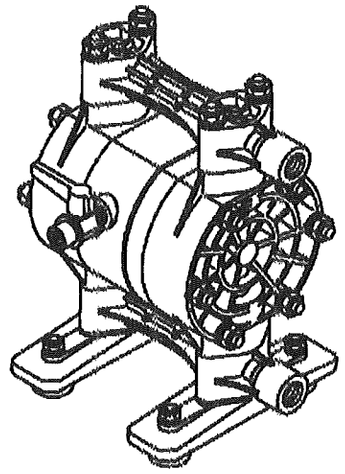
Description/ Descripción

GB

1:1 ratio air-operated diaphragm pump with polypropylene body and Santoprene® (TPO) diaphragms.

E

Bomba neumática de diafragma ratio 1:1, con carcasas de polypropylene y membranas de Santoprene®.



Installation/ Instalación

GB

Please see figure 2, a typical installation with the recommended accessories for the pump to operate correctly.
NOTE: *The compressed air supply must be between 20 and 100 psi.*

E

A título informativo, se muestra en figura 2 una instalación típica con los elementos recomendados para su correcto funcionamiento.
NOTA: *La presión de alimentación de aire debe estar comprendida entre 0.8 y 7 bar.*

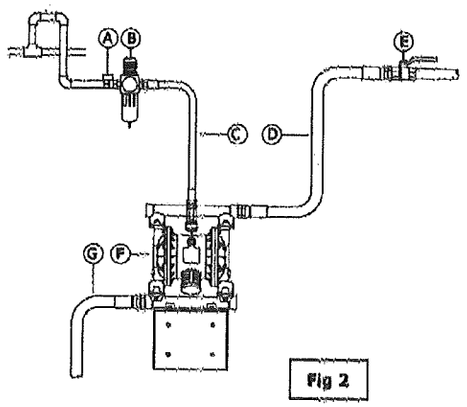


Fig 2

POS	DESCRIPTION	DESCRIPCIÓN
A	Shut-off valve air	Válvula de cierre aire
B	Filter/Regulator	Filtro-regulador
C	Air hose with quick coupler	Manguera aire con enchufe rápido
D	Outlet hose	Manguera de salida
E	Fluid shut-off valve	Válvula de cierre fluido
F	Diaphragm pump 1:1	Bomba de diafragma 1:1
G	Suction hose	Manguera de succión

Trouble shooting/ Anomalías y sus soluciones

Symptom	Possible Causes	Solution
The pump continues operating although the outlet valve is closed.	There is a leak at some point of the outlet circuit.	Verify and tighten or repair.
	Worn check valve balls, seats or o-rings.	Replace the worn items.
The pump does not operate, or cycles once and stops.	Air valve is stuck or dirty.	Disassemble and clean the air valve.
	Check valve ball severely worn and wedged in seat.	Replace ball and seat.
	Outlet valve clogged.	Relieve pressure and clear valve.
The pump operates erratically.	Clogged suction line.	Verify and clean the suction line.
	Sticky or leaking valve balls.	Clean or replace.
	Diaphragm ruptured.	Replace diaphragm.
Air bubbles in fluid.	Suction line loose.	Verify and tighten.
	Diaphragm ruptured.	Replace diaphragm.
	Loose diaphragm shaft bolt.	Tighten shaft bolt.
Fluid in exhaust air.	Diaphragm ruptured.	Replace diaphragm.
	Loose diaphragm shaft bolt.	Tighten shaft bolt.
	Damaged o-ring.	Replace o-ring.
The pump exhausts air at stall.	Worn air valve block, o-ring, plate, pilot block, u-cups or pilot pin o-rings.	Repair or replace.

Síntomas	Posibles causas	Soluciones
La bomba sigue funcionando aunque se cierre la salida del fluido.	Existe fuga en algún punto del circuito de salida.	Verificar y apretar o reparar.
	Bolas, asientos o juntas tóricas gastadas.	Sustituir las piezas gastadas.
La bomba no bombea, o bombea una vez y luego para.	Válvula de aire obstruida.	Desmontar y limpiar la válvula.
	Bolas muy gastadas y trancadas en los asientos.	Sustituir bolas y asientos.
	Válvula de salida obstruida.	Soltar la presión y limpiar la válvula.
La bomba funciona incorrectamente.	Circuito de succión obstruido.	Verificar y limpiar el circuito.
	Bolas sucias o dañadas.	Limpiar o sustituir.
	Membrana rota.	Sustituir membrana.
El fluido sale con burbujas de aire.	Manguera de succión suelta.	Apretar la manguera.
	Membrana rota.	Sustituir membrana.
	Tornillo del eje membrana suelto.	Apretar el tornillo.
Sale fluido por el escape de aire.	Membrana rota.	Sustituir membrana.
	Tornillo del eje membrana suelto.	Apretar el tornillo.
	Junta tórica dañada.	Sustituir junta tórica.
Fuga de aire cuando la bomba esta parada.	Desgaste del bloque válvula, junta tórica, plato, inversor, collarino junta tórica del eje piloto.	Reparar o sustituir.

Repair and maintenance procedures/ Procedimientos de reparación y mantenimiento

GB

WARNING: *Before starting any kind of maintenance or repair, disconnect the compressed air supply and open a downstream valve to relieve the fluid pressure.*

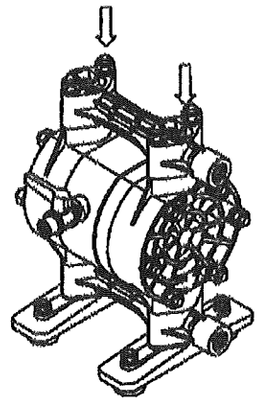
E

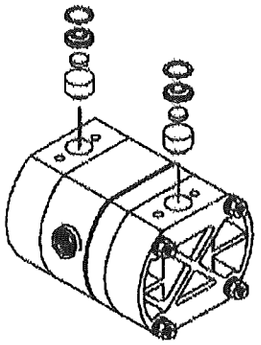
ATENCIÓN: *Antes de empezar cualquier tipo de mantenimiento o reparación, desconecte el aire de alimentación y accione la válvula de salida para soltar la presión del fluido.*

Ball check valves/ Válvulas de antiretorno

GB

1. Using a socket wrench, remove the four bolts holding the outlet manifold to the outer chambers.
2. Remove the o-rings, seats and balls from the manifold.
3. Clean all parts and inspect for wear or damage. Replace parts as needed.
4. Using the same procedure, remove the inlet manifold and clean and inspect the lower ball check valves.
5. Reassemble in reverse order.





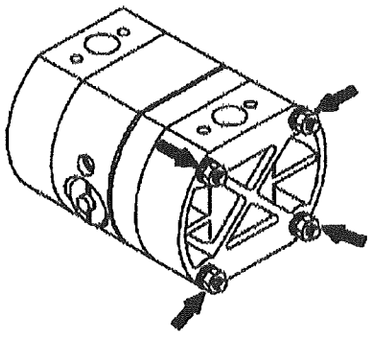
Diaphragms/ Membranas

GB

1. Remove the manifolds and ball check valves as explained above.
2. Using a socket wrench, remove the screws holding the outer chambers to the pump body. Pull the outer chambers off the pump.

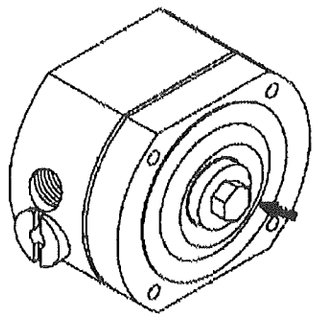
E

1. Quitar el tubo salida fluido y válvulas de antiretorno como explicado arriba.
2. Destornillar los tornillos que sujetan la tapa lateral fluido a la tapa lateral aire, usando una llave fija. Retirar la tapa lateral fluido de la bomba.



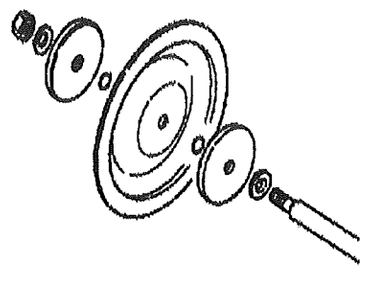
GB

3. Loosen the both diaphragm shaft bolts, but only unscrew one bolt and remove the o-ring, fluid-side diaphragm plate, diaphragm and air-side diaphragm plate.
4. Pull the other diaphragm assembly and the diaphragm shaft out of the pump body. Hold the shaft flats with a wrench, and remove the bolt from the shaft. Disassemble the remaining diaphragm assembly.
5. Reach into the center housing with an o-ring pick and hook the u-cup packings, then pull them out of the housing.
6. Clean all parts and inspect for wear or damage. Replace parts as needed.
7. Reassemble the pump in reverse order. **NOTE**: Install the u-cup packings with the lips facing *out* of the housing. Grease the diaphragm shaft before inserting it. Install the outer chambers so the arrows on the chambers face in direction towards the outlet manifold.



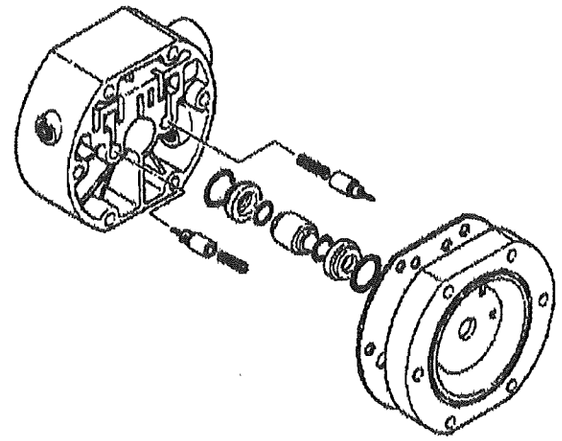
E

3. Soltar los dos tornillos del eje membrana, pero solo destornillar uno por completo y quitar la junta tórica, plato membrana fluido, membrana y plato membrana aire.
4. Tirar el otro conjunto membrana y el eje membrana hacia fuera del cuerpo de aire. Quitar el tornillo del eje membrana, sujetando con una llave fija en el fresado del eje. Desmontar el conjunto membrana que queda.
5. Quitar los collarines dentro del cuerpo aire usando un ..... Esto se puede realizar sin quitar los cojinetes.
6. Limpiar todos los detalles y verificar si están gastados o dañados. Sustituir si es necesario.
7. Volver a montar la bomba en orden contrario. **NOTA**: Colocar los collarines con la lengüeta hacia fuera del cuerpo. Lubricar el eje de membrana antes de insertarlo. Colocar las tapas laterales fluido con las flechas en las tapas en dirección hacia el múltiple de salida, usando sellador en las roscas de los tornillos.



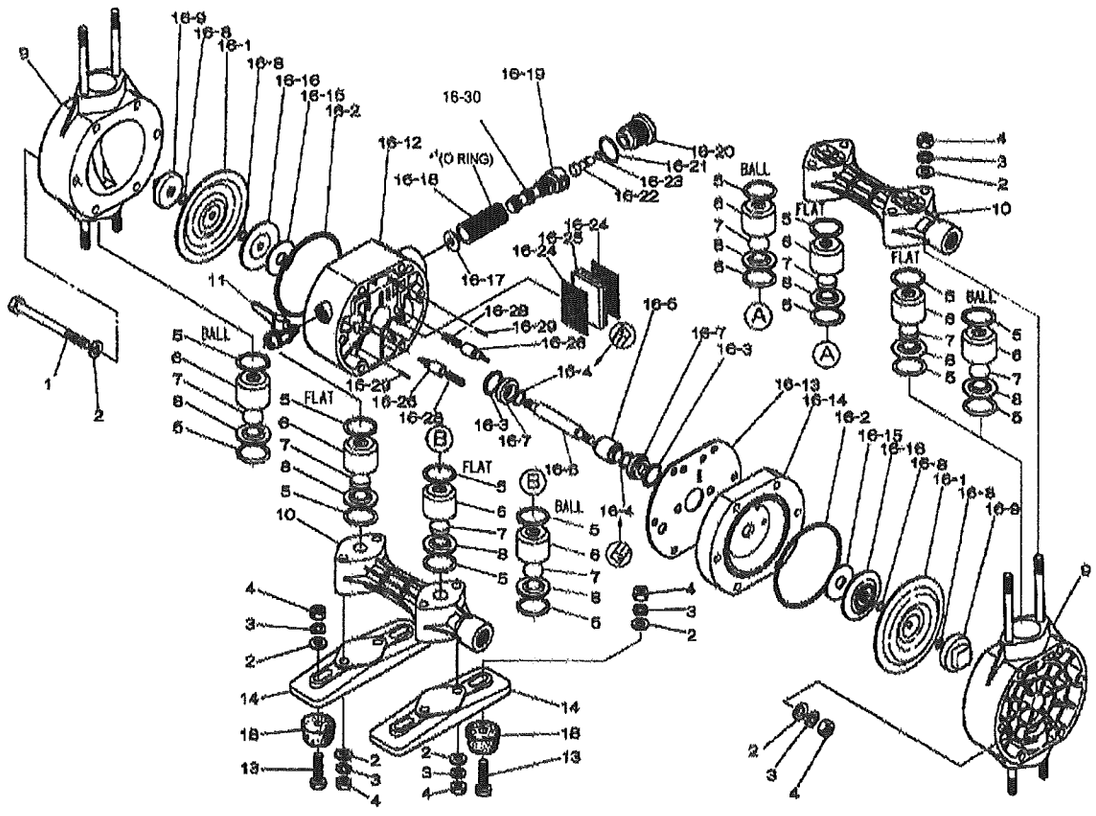
GB

1. Disassemble the air valve and center section as shown and inspect and repair as needed.



E

1. Desmontar la válvula de aire y la sección central como y se muestra Inspeccionar y reparar si es necesario.



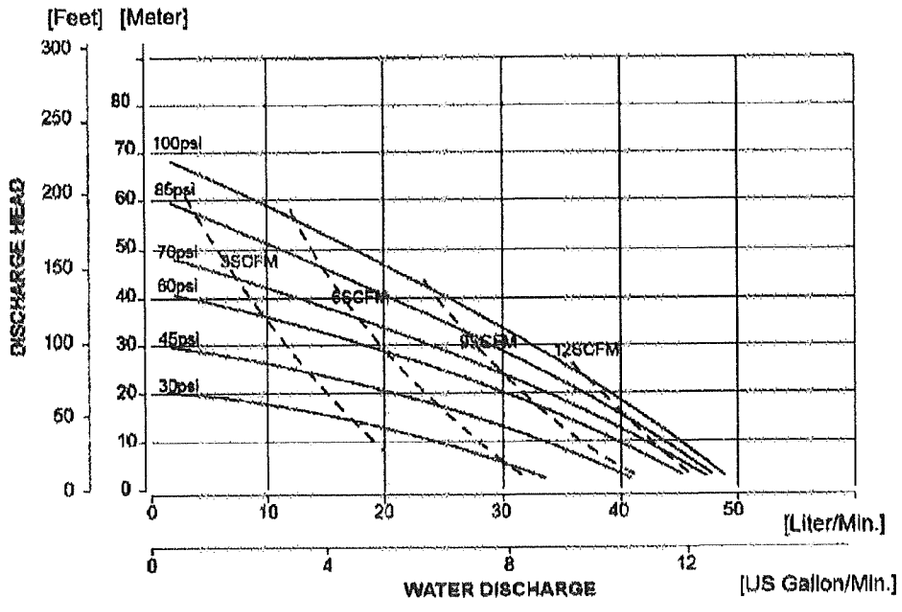
Repair kit available/ Kit de reparación disponibles

Description	Descripción	Include pos/ Incluye pos	Part Nº/ Código
Fluid section	Sección fluido	5, 7 & 16-1	K15-PS-B
Air motor	Motor de aire	16-2, 16-3, 16-4, 16-15, 16-17, 16-21, 16-23, 16-30	K15-AM

Technical information/ Información técnica

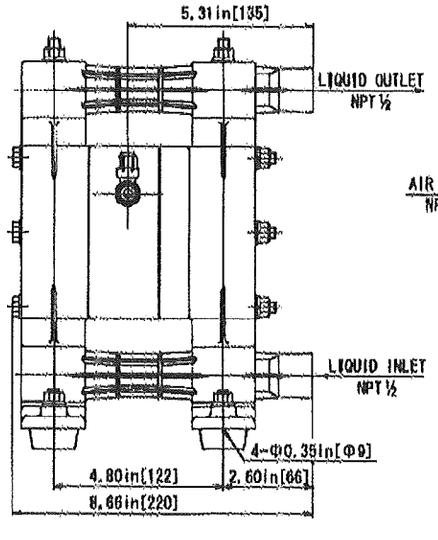
Máx. presión del fluido	Max. fluid working pressure	7 bar (100 PSI)
Máx. consumo de aire	Max. air consumption	339 l/min (12 SCFM)
Máx. caudal salida libre	Max. free flow delivery	49 l/min (13 gpm)
Máx. velocidad de la bomba	Max. pump speed	400 cpm
Entrada aire	Inlet air	1/4 " Female NPT
Entrada y salida fluido	Fluid inlet and outlet	1/2" Female NPT
Peso	Weight	8 lbs

CAPACITY CURVE/ CURVA DE CAPACIDAD

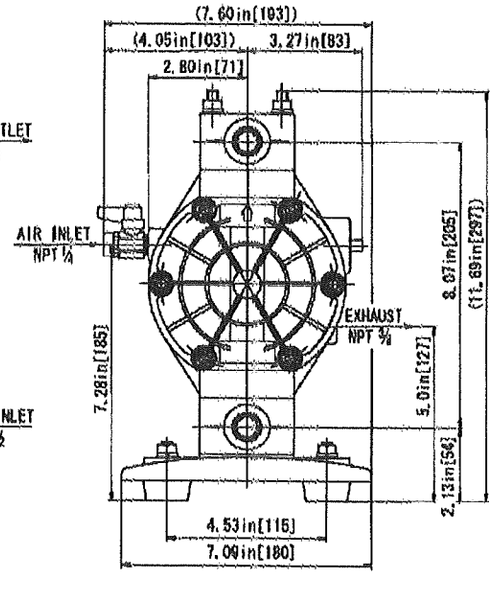


Dimensions/ Dimensiones

FRONT VIEW



SIDE VIEW



5:1 RATIO AIR OPERATED HIGH VOLUME OIL PUMPS PUMPMASTER 4
BOMBAS NEUMÁTICAS DE ACEITE PUMPMASTER 4, RATIO 5:1

SAMSON®
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Parts and technical service guide
Guía de servicio técnico y recamblo

Cód.: 400 408

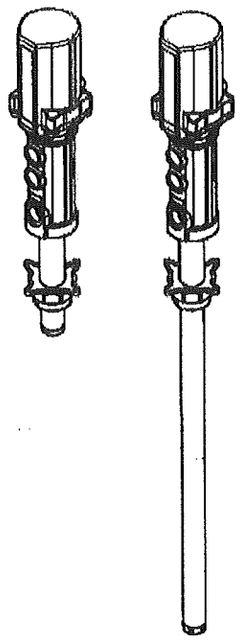
Description / Descripcion

GB

Compressed air operated piston reciprocating medium pressure pumps. Suitable for the transfer of heavy viscosity oil and distribution of oil through pipe works, hose reels and meters. High output allows simultaneous operation when used with multi outlet systems. These pumps can be supplied as separate components or as complete systems with all the elements necessary for its installation. These pumps may be mounted on drums, tanks or wall, using the appropriate accessories.

E

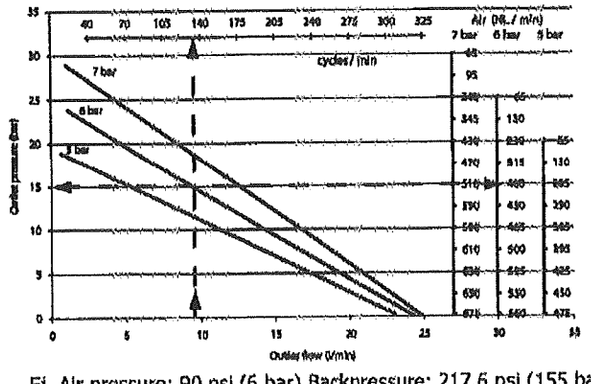
Bombas de pistón alternativo accionadas por aire comprimido de media presión para transvasar aceites viscosos o distribución de aceite a través de conducciones, incluso suministrando fluido en varias salidas provistas de enrolladores y contadores. Las bombas pueden ser suministradas como componentes separados o en forma de sistemas completos con todos los elementos precisos para su instalación. Han sido concebidas para montaje sobre bidón, cisterna o mural, utilizando los accesorios de aspiración de fluido apropiados.



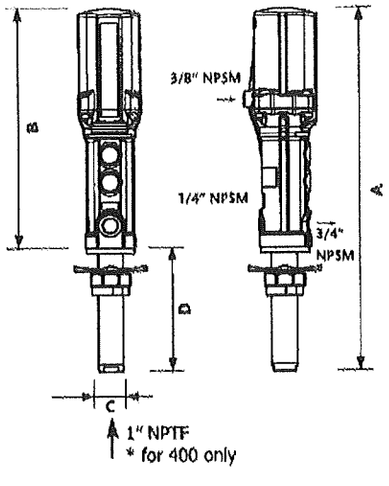
GB E

Model/ Modelo	400	408
A (mm) in.	(663) 26.2	(1300) 51.2
B (mm) in.	(385) 15.2	(385) 15.2
C (mm) in.	(42) 1.65	(42) 1.65
D (mm) in.	(278) 10.9	(915) 36.0
Weight/ Peso	18 lbs	21 lbs

Pumpmaster 4 N.D. 5:1 HD SAE 30 23°C



Ej. Air pressure: 90 psi (6 bar) Backpressure: 217.6 psi (155 bar)
Outlet Flow 2.6 gpm (10 l/min) Cycles/min: 130



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Technical data/ Datos tecnicos

Maximum Air pressure	Presión de aire máxima	**10 bar (140 psi)**
Minimum air pressure	Presión de aire mínima	**3 bar (40 psi)**
Maximum delivery	Caudal máximo	**25 l/min**
Air inlet thread	Rosca entrada aire	**3/8" NPSM (H) / (F)**
Oil outlet thread	Rosca salida aceite	**3/4" NPSM (H) / (F)**
Air piston diameter	Diámetro pistón de aire	**88 mm (~4")**
Air piston stroke	Recorrido del pistón de aire	**75 mm (3")**

Installation - Instalación

GB

These pumps can be mounted directly on drums, tanks, or on a wall bracket fitted with a 2" bung (Fig 2).

- Loose the star nut (836150) of the bung adaptor to remove the inferior nut (736152), and screw this into the 2" bung opening of the drum or bracket.
- Place the star nut (836150) and the ring (834150) on the suction tube.
- Introduce the pump through the opening and fasten the assemble at the desired height by tightening the star nut.

E

Las bombas pueden ser montadas directamente sobre bidones, cisternas o sobre un soporte mural que dispongan de rosca 2"BSP H (Fig. 2).

- Afloje la tuerca en estrella (836150) del adaptador para extraer la parte inferior del mismo (736152) y roscarla en el brocal de 2" del bidón o del soporte.
- Coloque la tuerca en estrella (836150) y el anillo (834150) del adaptador en el tubo
- Introduzca la bomba por el brocal y apriete el conjunto a la altura deseada.

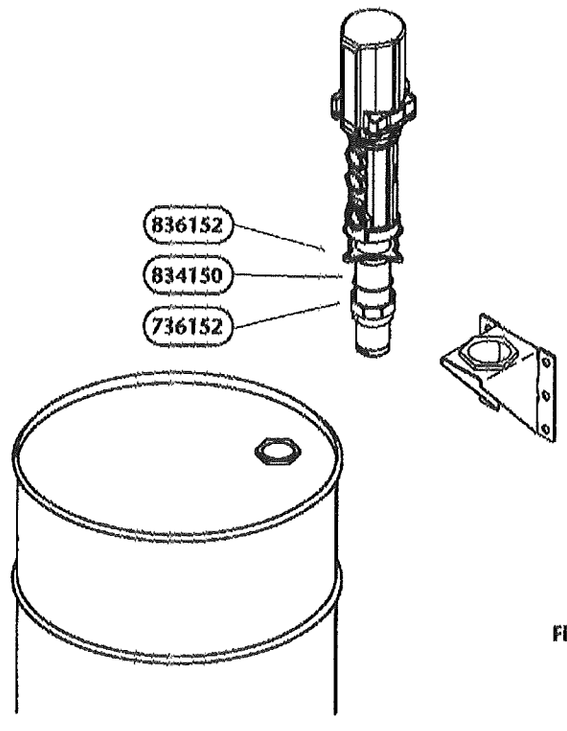

Fig. 2

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GB

See figure 3 for a typical installation with all the recommended accessories for the pump to operate correctly.
NOTE: The compressed air supply must be between 3 and 10 bar (40 – 140 psi), being 6 bar (90 psi) recommended pressure. An air closing valve must be installed, in order to be able to close the compressed air line at the end of the day (If the air inlet not is closed and there is a leakage in some point of the oil outlet circuit, the pump will start automatically, emptying the container).

E

A título informativo, se muestra en la figura 3 una instalación típica con todos los elementos recomendados para su correcto funcionamiento.
NOTA: La presión de alimentación de aire debe estar comprendida entre 3 y 10 bares siendo 6 bares la presión recomendada. Es aconsejable instalar, asimismo, una válvula de cierre para poder cerrar la alimentación de aire al final de la jornada. (En caso de roturas o fugas en la salida de aceite, si la alimentación de aire no está cerrada, la bomba se pondría en marcha automáticamente, pudiendo vaciarse completamente el depósito).

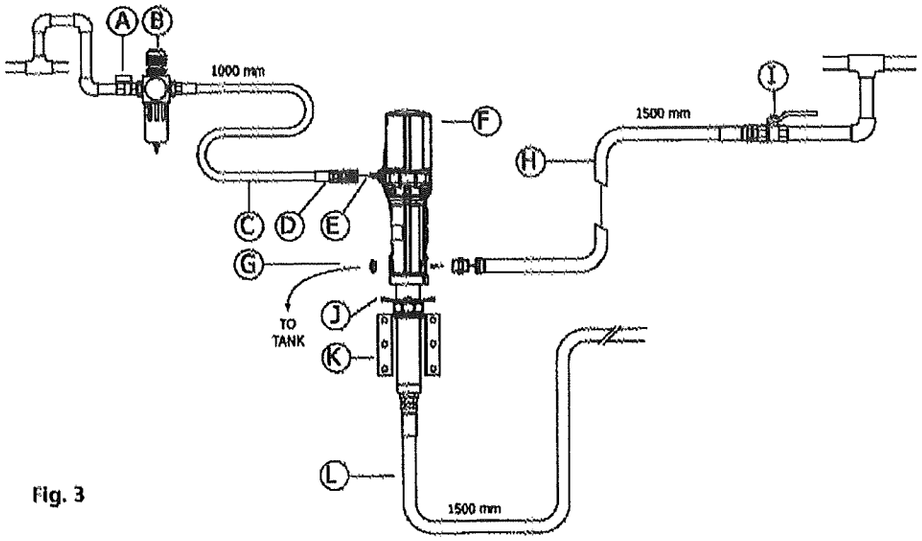

Fig. 3

Pos	Description	Descripción	Description	Part Nº
A	Air closing valve	Válvula de cierre de air	Vanne d'arrêt pour ligne air	2013
B	Filter Regulator	Filtro Regulado	Régulateur/filtre	956
C	Air hose	Manguera de aire	Flexible de liaison air	813
D	Quick coupling	Enchufe rápido	Raccord rapide	940
E	Connection nipple	Conector rápido	Embout pour raccord rapide	941
F	5:1 Pump PM4 (stubby)	Bomba PM4 5:1 (corta)	Pompe PM4 5:1 (courte)	400/408
G	Pressure relieve valve	Válvula de descarg	Clapet de décharge	604007
H	Oil hose	Manguera de aceite	Flexible d'huile	857
I	Oil closing valve	Válvula de cierr de aceite	Vanne d'arrêt pour circuit d'huile	2074
J	Bung adaptor	Adaptador deslizant	Bague de fixation	360002
K	Wall bracket	Soporte mural	Support murale	900
L	Suction attachment	Conjunto de succión	Ensemble d'aspiration	910

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Operation/ Modo de empleo

GB

This pump is self-priming. To prime it the first time, you must connect the air supply to the pump and slowly increase the air pressure from 0 to the desired pressure using a pressure regulator, while keeping the outlet valve (ex. an oil control gun) opened. Once oil starts to come out through the oil gun/ guns, the pump is primed.
NOTE: It is important that the foot valve does not get in contact with dirty areas, such as a workshop floor, because it may enter dirt or foreign particles that can damage the seals.

E

Esta bomba es auto-cebante. Para cebarla la primera vez, es conveniente conectar el aire a la bomba incrementando la presión lentamente desde 0 bares a la presión deseada con el regulador de presión, manteniendo la válvula de salida (Ej. una pistola de aceite) abierta. Cuando el aceite empieza salir de la pistola/ las pistolas, la bomba está cebada.
NOTA: Es importante que la válvula de pie no esté en contacto con zonas sucias, tales como el suelo de un taller, porque puede entrar virutas o partículas que podrían llegar a dañar las juntas.

Troubleshooting/ Anomalías y sus soluciones

GB

Symptoms	Possible Reasons	Solutions
The pump is not working or there is no oil delivery.	Not enough air supply pressure.	Increase the air supply pressure.
	Some outlet line component is clogged or closed.	Clean or open the outlet circuit.
The pump begins to operate very fast.	The drum/tank is empty or the oil level is beneath the suction tube inlet.	Replace the drum/fill the tank or lower the suction tube until the inlet reaches the oil level.
The pump keeps on operating although the oil outlet is closed.	There is an oil leakage in some point of the outlet circuit.	Verify and tighten or repair.
	Impurities in the upper valve or in the foot valve (fig. 6-7).	Dismount and clean. Replace in case of damage.
Oil leakage through the air outlet muffler.	Oil has by-passed to the air motor caused by worn or damaged packing set (735210).	Replace the packing set.
Air leakage through the air outlet muffler.	The piston seal (946503) is worn or damaged.	Dismount and clean. Replace in case of damage.
	The air motor dolly is scratched.	Replace air motor dolly.
	The air piston rod (734224) is scratched.	Replace the piston rod.
	The reversing set (734616) is worn or damaged.	Replace the reversing set.
Diminution of the oil delivery.	Impurities in the upper valve or in the foot valve (fig. 6-7).	Dismount and clean. Replace in case of damage.
The pump operates one cycle and stops.	The top reversing spring (835302) is damaged.	Replace the top reversing spring.

E

Síntomas	Posibles causas	Soluciones
La bomba no funciona o no hay entrega de aceite.	Presión de suministro de aire no adecuada.	Incremente la presión de suministro de aire.
	Algún elemento del circuito de salida está obstruido o cerrado.	Limpie o abra el circuito de salida.
La bomba empieza a bombear mucho más deprisa.	El bidón esta vacío o el nivel de la aceite esta por debajo de la entrada de la bomba.	Sustituir el bidón o calar el tubo de succión hasta llegar al nivel del aceite.
La bomba sigue funcionando aunque se cierre la salida de aceite.	Existe fuga de aceite en algún punto del circuito de salida.	Verificar y apretar o reparar.
	Suciedad en la válvula superior o en la válvula de pie (fig. 6-7).	Desmontar y limpiar las válvulas. En caso de deterioro, sustituirlas.
Perdida de aceite por el silenciador del escape de aire.	Aceite ha pasado al motor de aire causado por deterioro del conjunto empaquetadura (735210).	Sustituir el conjunto empaquetadura .
Perdida de aire por el silenciador del escape de aire.	El collarín del vástago (946503) está deteriorado.	Sustituir el collarín del vástago.
	La cazoleta del motor de aire está rayada.	Sustituir la cazoleta.
	El vástago (734224) está rayado.	Sustituir el vástago.
	El conjunto inversor (734616) desgastado.	Sustituir el conjunto inversor.
Disminución de caudal entrega de aceite.	Suciedad en la válvula superior o en la válvula de pie (fig. 6-7).	Desmontar y limpiar las válvulas. En caso de deterioro, sustituirlas.
La bomba empieza funcionar, pero para después de un ciclo.	Rotura del muelle inversor superior (835302).	Sustituir el muelle inversor superior.

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GB

WARNING: Before starting any kind of maintenance or repair, disconnect the compressed air supply and open a downstream valve to relieve the oil pressure.

E

ATENCIÓN: Antes de empezar cualquier tipo de mantenimiento o reparación, desconecte el aire de alimentación y accione la válvula de salida para soltar la presión del aceite.

Separate the air motor from the pump/ Como separar el motor de aire de la bomba

GB

1. Attach the pump to a vice in horizontal position, grabbing it by the pump body.
2. To unscrew the suction tube (734604-S/734503-) from the pump body, use a 40 mm wrench on the hexagon of the foot valve body (835423-S/735306-L) (fig. 4). Pull first clockwise to break the sealing, and then counter clockwise to loosen and remove the tube assembly.
3. Remove the pin (943042) situated in the upper part of the connecting rod (735410-S/735504-L) (fig. 5) and unscrew the rod from the air piston (734664).

E

1. Fijar la bomba en una mordaza agarrando por el cuerpo de la bomba con la bomba en posición horizontal.
2. Para desenroscar el tubo de aspiración (734604-S/734503-L) del cuerpo de la bomba, usar llave fija de 40 mm en el cuerpo válvula de pie (835423-S/735306-L) (fig. 4). Tirar primero contra las agujas del reloj para romper el sellador y luego hacia el otro sentido para desenroscar y quitar el conjunto tubo de aspiración.
3. Extraer el pasador (943042) situado en la parte superior del eje válvula impulsión (735410-S/735504-L) (Fig. 5) y desenroscar el eje del vástago (734664).

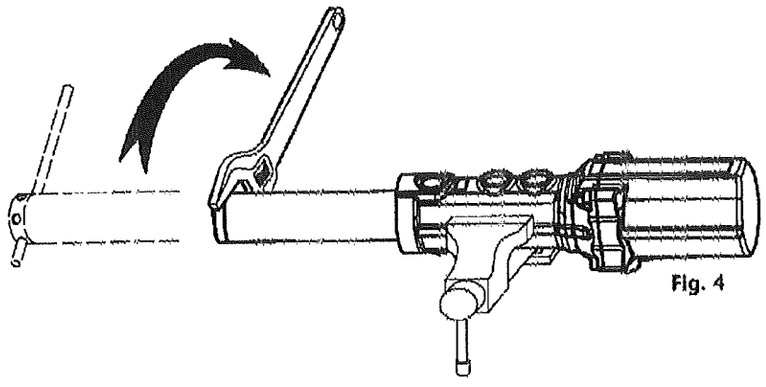

Fig. 4

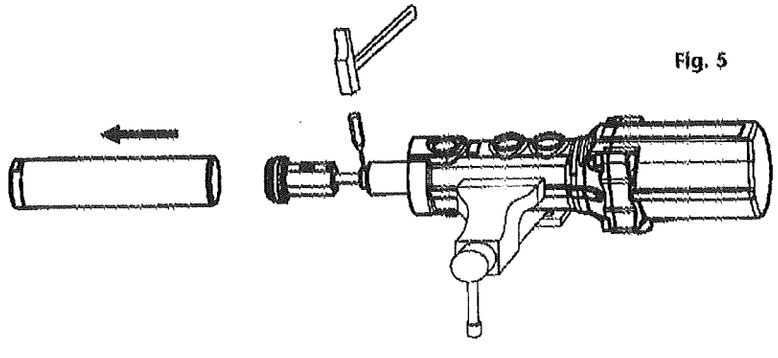

Fig. 5

2009_05_20-19-20

Foot valve/ Válvula de pie

GB

1. Attach the suction tube assembly to the vice and unscrew the foot valve body (835423-S/735306-L) from the suction tube.
2. Unscrew the nut (941106) and clean the washer (735206) and the valve body (835423-S/735306-L), replace in case of damage. Assemble the pump following the previous instructions, reversing each step.

E

1. Fijar el conjunto tubo de succión en la mordaza y desenroscar el cuerpo válvula de pie (835423-S/735306-L) del tubo de succión.
2. Desenroscar la tuerca (941106) y limpiar la arandela (735206) y el cuerpo válvula (835423-S/735306-L), en caso de deterioro sustituirlos. Volver a montar en orden contrario.

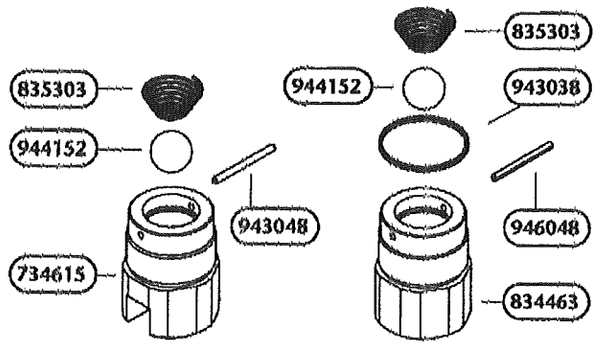

Fig. 6

Impulsion valve/ Válvula de impulsión

GB

1. Unscrew the valve seat (734609) from the valve body (734610) and remove the washer (734607), the oil plunger (946502), the washer (734608), the ball (944152) and the spring (835300).
2. Clean these parts carefully. In case of damage, replace the affected parts.
3. Assemble the pump following the previous instructions, reversing each step.

E

1. Desenroscar el asiento válvula (734609) del cuerpo válvula (734610) y quitar la arandela (734607), el collarín (946502), la arandela (734608), la bola (944152) y el muelle (835300).
2. Limpiar estas piezas cuidadosamente. En caso de deterioro, sustituir los elementos afectados.
3. Volver a montar en orden contrario.

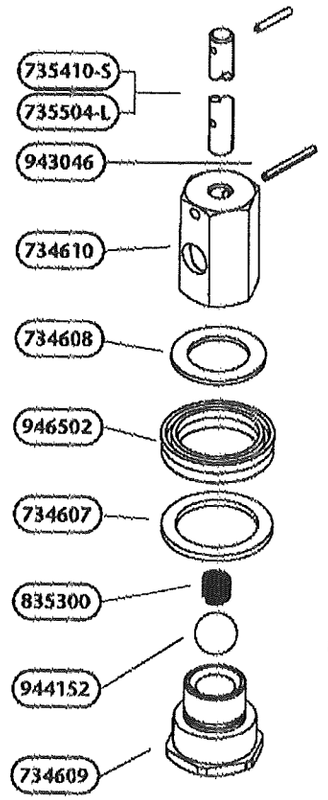

Fig. 7

2009_05_20-19-20

Packing set/ Conjunto empaquetadura

GB

1. Follow the procedure for the air motor until the air piston (734664) is outside the air motor body.
2. Remove the circlip (942747) and the packing set (735210) from the air motor body. Replace in case of damage.
3. Assemble the pump following the previous instructions, reversing each step.

NOTE: The packing set is directional and must be mounted with the seals positioned as shown in fig.12.

E

1. Seguir el procedimiento del motor de aire hasta haber extraído el vástago (734664) del cuerpo motor.
2. Quitar el anillo de seguridad (942747) y el conjunto empaquetadura (735210) del cuerpo motor de aire. Sustituir en caso de deterioro.
3. Volver a montar en orden contrario.

NOTA: El conjunto empaquetadura debe ser montada con las juntas según fig. 12.

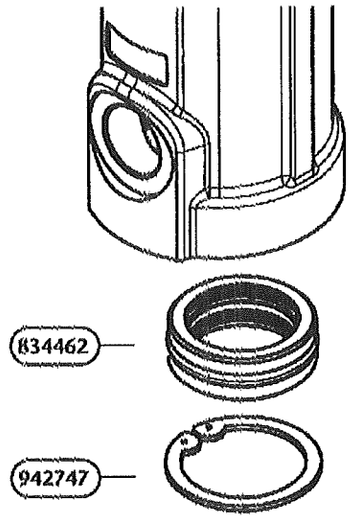

Fig. 11

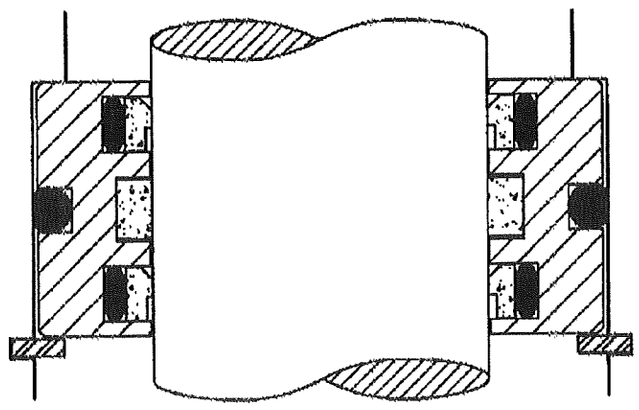

Fig. 12

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Inverting set and air motor/ Conjunto inversor y motor de aire

GB

1. Fix the air motor body in a suitable way and unscrew the air motor screw (940333) then remove it slowly.
2. Check the upper spring (835302) and the spring stop (735230) inside the air motor dolly (1). Replace in case of damage.
3. Dismount the lower o-ring (946027) and muffler (860423) and pull up the inverting set until the hole in pump piston (734664) gets visible in the opening where the muffler was dismounted. Introduce a steel rod (8 mm) in the hole to lock the piston.

E

1. Aflojar los tornillos 940333 y extraer la cazoleta tirando lentamente hacia arriba.
2. Verificar el muelle superior (835302) y el tope muelle (735230) en la cazoleta. Sustituir en caso de deterioro.
3. Desmontar la junta tórica inferior (946027) y el silenciador (860423) y tirar el conjunto inversor hacia arriba hasta que el agujero en el vástago (734664) quede visible en la apertura donde el silenciador fue quitado. Introducir una varilla acerada (8mm) en el agujero del pistón para bloquear el mismo.

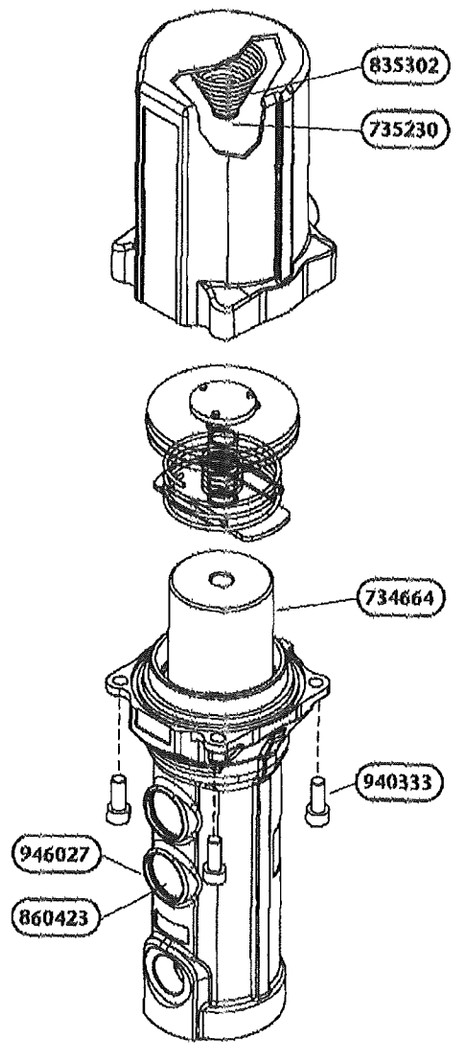


Fig. 8

Inverting set and air motor/ Conjunto inversor y motor de aire

GB

4. Use a prepared 17mm wrench (see fig. 9) to disassemble the inverting set (734616).

5. Remove the piston (734664) and disassemble the circlip (942772), the washer (734612) and the seal (946503) (fig. 10). Check the piston for scratches and replace damaged parts.

6. Assemble the pump following the previous instructions, reversing each step.

E

4. Desenroscar el conjunto inversor (734616) con una llave fija de 17mm preparada (Fig. 9).

5. Quitar el vástago (734664) y desmontar el anillo de seguridad (942772), la arandela (734612) y el collarín (946503) (Fig. 10). Verificar que el vástago no esté rayado y sustituir piezas deterioradas.

6. Volver a montar en orden contrario.

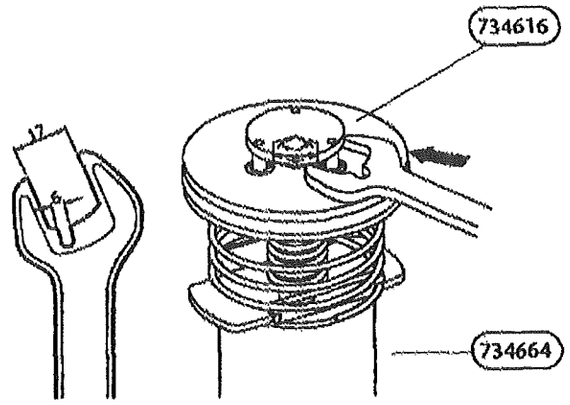


Fig. 9

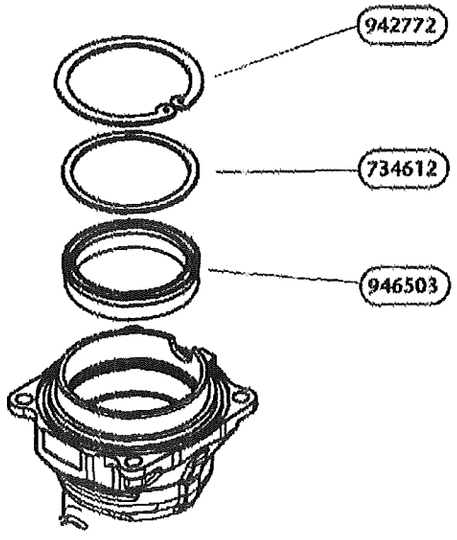
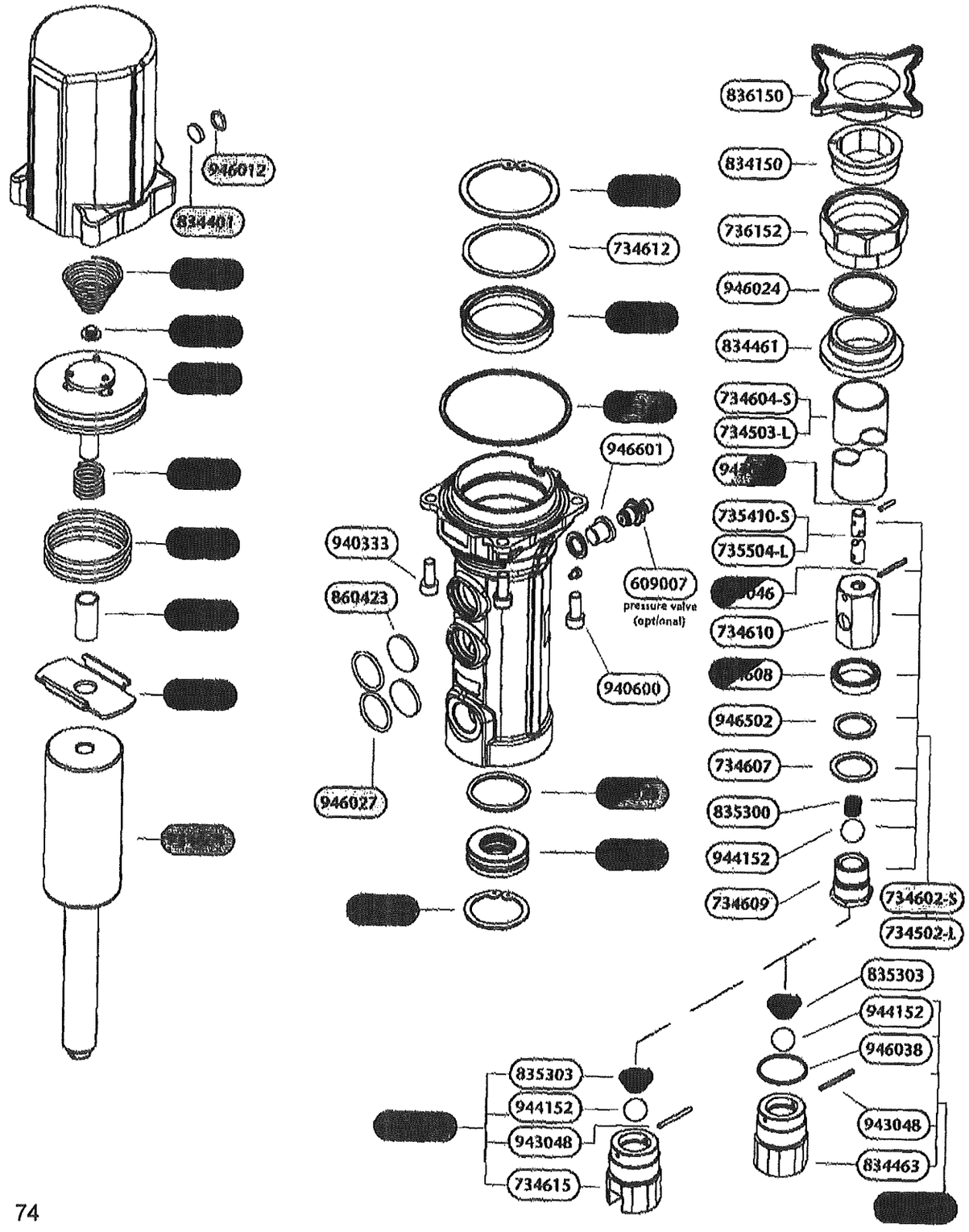


Fig. 10


946012
834401
836150
834150
736152
946024
834461
734604-S
734503-L
735410-S
735504-L
734610
734612
946601
940333
860423
609007
pressure valve
(optional)
940600
946027
946502
734607
835300
944152
734609
734602-S
734502-L
835303
944152
946038
943048
834463
835303
944152
943048
734615

GB E

Kit number	Part. No incl./Cód. incl.	Description	Descripción
734953	**PM4 Muffler and filter kit / Kit silencioso y filtros**		
	834401	Air filter	Filtro de aire
	860423 (x2)	Muffler	Silenciador
	946012	O-ring	Junta tórica
	946027 (x2)	O-ring	Junta tórica
734954	**PM4 5:1 Air and oil packing kit / Kit empaquetadura**		
	734612	Support ring	
	834462	Support packing	Porta-stepseal
	942747	Locking ring	Anillo de sujección
	942772	Locking ring	Anillo de sujección
	943042	Locking pin	Manguito de sujección
	943046	Locking pin	Manguito de sujección
	946038	O-ring	Junta tórica
	946148	O-ring	Junta tórica
	946023	O-ring	Junta tórica
	946503	U-Packing	Collarín
	946502	U-Packing	Collarín
734955	**PM4 Major repair kit air motor / Kit reparación motor de aire**		
	734616	Air piston	Pistón de aire
	734617	Bushing	Casquillo
	734618	Bottom plate	Tope inferior
	735230	Cap	Tope goma
	834300	Spring	Resorte
	835301	Spring	Resorte
	835302	Spring	Resorte
	946148	O-ring	Junta tórica
734956	**PM4 5:1 Main Piston Kit / Kit reparación vástago**		
	734664	Main Piston	Vástago
	943042	Locking pin	Anillo de sujección
	946148	O-ring	Junta tórica
	946023	O-ring	Junta tórica

Option / Opcional:			
Kit number	Part. No incl./Cód. incl.	Description	Descripción
734957	**Discharge valve kit / Kit Válvula de descarga**		
	609007	Pressure valve	Válvula de presión
	946601	Bounded seal	Junta metaloplástica

Only for / sólo para: 400			
Kit number	Part. No incl./Cód. incl.	Description	Descripción
734958	**PM4 5:1 Piston kit (Stub Pump) / Kit pistón (válvula intemedia)**		
	734602	Valve	Válvula
	943042	Locking pin	Anillo de sujección
734505	**PM4 5:1 Foot valve kit (Stub Pump) / Kit válvula de pie**		
	834463	Body valve	Cuerpo de válvula
	835303	Spring	Resorte
	943048	Lock pin	Anillo de sujección
	944152	Ball	Bola
	946038	O-ring	Junta tórica

Only for / sólo para: 408			
Kit number	Part. No incl./Cód. incl.	Description	Descripción
734959	**PM4 5:1 Piston kit (Drum Length) / Kit pistón (válvula intemedia)**		
	734502	Valve	Válvula
	943042	Locking pin	Anillo de sujección
734606	**PM4 5:1 Foot valve kit (Drum Length) / Kit válvula de pie**		
	734615	Body valve	Cuerpo de válvula
	835303	Spring	Resorte
	943048	Lock pin	Anillo de sujección
	944152	Ball	Bola

2009_05_20-19-20

EC conformity declaration / Declaración CE de conformidad / Déclaration CE de conformité / EG-Konformitätserklärung

GB

SAMOA INDUSTRIAL, S.A., Alto de Pumarín, s/n, 33211 – Gijón – Spain, declares that the product(s):
347120, 348120
conform(s) with the EU Directive(s):
98/37/EC.

E

SAMOA INDUSTRIAL, S.A., Alto de Pumarín, s/n, 33211 – Gijón – España, declara que el(los) producto(s):
347120, 348120
cumple(n) con la(s) Directiva(s) de la Unión Europea:
98/37/CE.

F

SAMOA INDUSTRIAL, S.A., Alto de Pumarín, s/n, 33211 – Gijón – Espagne, déclare que le(s) produit(s):
347120, 348120
est(sont) conforme(s) au(x) Directive(s) de l'Union Européenne:
98/37/CE.

D

SAMOA INDUSTRIAL, S.A., Alto de Pumarín, s/n, 33211 – Gijón – Spanien, bestätigt hiermit, dass das(die) Produkt(e):
347120, 348120
der(den) EG-Richtlinie(n):
98/37/EG
entspricht (entsprechen).

For SAMOA INDUSTRIAL, S.A.
Por SAMOA INDUSTRIAL, S.A.
Pour SAMOA INDUSTRIAL, S.A.
für SAMOA INDUSTRIAL, S.A.

Pedro E. Prallong Álvarez

Production Director
Director de Producción
Directeur de Production
Produktionsleiter

Gijon, Spain, 28 November 2008

2009_05_20-19-20

1100 SERIES GREASE CONTROL HANDLE
MANIJA DE CONTROL DE LA GRASA DE 1100 SERIES
POIGNÉE DE COMMANDE DE GRAISSE DE 1100 SÉRIES

Parts and Technical Service guide
Guía de servicio técnico y recambio
Guide d'instructions et pièces de rechange

Ref.: **1113, 1115, 1115-2**
413077, 413080, 413081, 413082

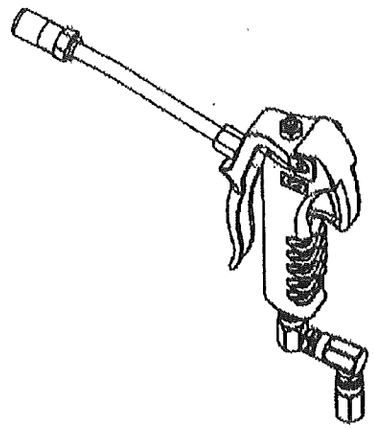
Description/ Descripción/ Description

E

This High Pressure Grease Control Handle features an alloy steel internal replaceable pressure cartridge with an attractively styled and ergonomically designed Aluminum alloy outer housing. Shown with optional alloy steel ball bearing Z-Swivel (available in several thread configurations.)

SP

Esta manija de control de alta presión de la grasa ofrece un cartucho reemplazable interno de la presión del acero de aleación con una cubierta externa atractivo labrada y ergonómicamente diseñada de la aleación de aluminio. Demostrado con el Z-Eslabón giratorio opcional del rodamiento de bolitas de acero de aleación (disponible en varios rosque las configuraciones.).



FR

Cette poignée de commande à haute pression de graisse comporte une cartouche remplaçable interne de pression d'acier allié avec un logement externe agréablement dénommé et du point de vue ergonomique conçu d'alliage d'aluminium. Montré avec le Z-Pivot facultatif roulement à billes d'acier allié (disponible dans plusieurs filetez les configurations.)

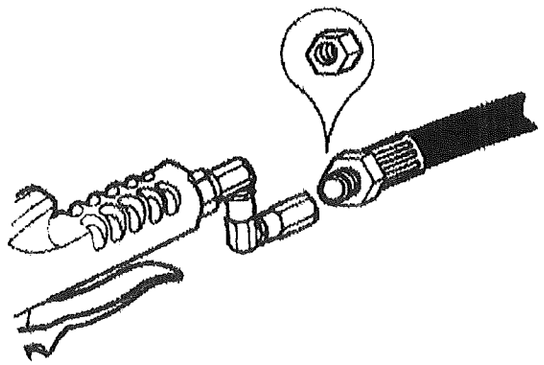
Installation - Operation/ Instalación – Modo de empleo/ Installation – Mode d'emploi

E

Attach the Z-Swivel to the Control Handle inlet and the dispensing hose using Loctite Blue #242 (provided). Install the outlet pipe or optional whip hose on the outlet. Confirm proper operation of the handle and adjust the setscrew if necessary.

SP

Una el Z-Eslabo'n giratorio a la entrada de la manija de control y a la manguera que dispensa usando el loctite #242 azul (proporcionado). Instale la pipa del enchufe o la manguera opcional del azote en el enchufe. Confirme la operación apropiada de la manija y ajuste el tornillo de presión en caso de necesidad.



FR

Attachez le Z-Pivot à l'admission de poignée de commande et au tuyau de distribution en utilisant le loctite #242 bleu (fourni). Installez la pipe de sortie ou le tuyau facultatif de fouet sur la sortie. Confirmez le fonctionnement approprié de la poignée et ajustez la vis de réglage au besoin.

Repair Kits/ Kits de Reparacion

Kit/Part Number	Description	Reference N°
GHK 1	Repair Kit	7, 12-16
741101	Housing	1
741102	Trigger	2
841601	Teflon Washer	3
741312	Actuator Pin	4
741313	Retainer	5
741314	Outlet	6
941108	Locknut	8
941531	Adjuster	9
943350	Trigger Pin	10
946066	O-Ring	11

Parts Not Shown	Description	Threads
1104	Z-Swivel	¼ NPTM X ½ -27M
1105	Z-Swivel	¼ NPTM X ¼ NPTF
1108	Straight Swivel	¼ NPTM X ½ -27M
1109	Straight Swivel	¼ NPTM X ¼ NPTF
1120	Outlet Pipe	⅛ NPTM X ⅛ NPTM
1122	Outlet Pipe and Coupler	⅛ NPTM
1124	Coupler	⅛ NPTM X ⅛ NPTM
1260	12" Whip Hose	⅛ NPTM X ⅛ NPTM
1262	18" Whip Hose	⅛ NPTM X ⅛ NPTM
1264	24" Whip Hose	⅛ NPTM X ⅛ NPTM

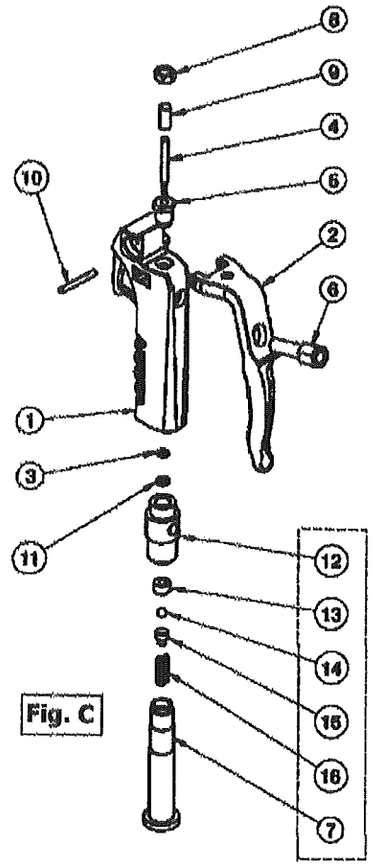


Fig. C

Technical Data/ Datos Técnicos

Maximum Grease Pressure	Presión de Grasa Máxima	Pression Maximum De Graisse	7250 PSI (500 bar)
Inlet Threads	Rosca Entrada	Fils D'Admission	¼" NPTF
Outlet Threads	Rosca Salida	Fils De Sortie	⅛" NPTF

Troubleshooting/ Anomalias y sus Soluciones

Symptoms	Possible Reasons	Solutions
Leaks from threads.	Assembly/Mounting with inferior thread sealing compounds.	Reseal threads with Loctite Blue #242 or equivalent product.
Handle will not shut off.	Set Screw Adjustment	Adjust Set Screw

AIR-OPERATED DIAPHRAGM PUMP
BOMBA NEUMÁTICA DE DIAFRAGMA
POMPE NEUMATIQUE Á MEMBRANE

Parts and technical service guide
Guía de servicio técnico y recambio
Guide d'instructions et pièces de rechange

Part No./ Cód./ Réf.:
2833

Description/ Descripción/ Description

E

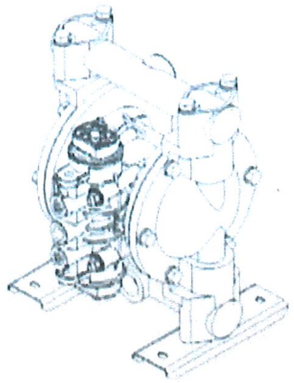
1:1 ratio air-operated diaphragm pump with aluminium body and Buna N diaphragms. Recommended for transferring oil or evacuating waste oil. Dual inlet manifolds P/N 2807 available separately for fixed 50:50 ratio mixing.

SP

Bomba neumática de diafragma ratio 1:1, con carcasas de aluminio y membranas de Buna N. Recomendada para el transvase de aceite, así como para la evacuación de aceite usado.

FR

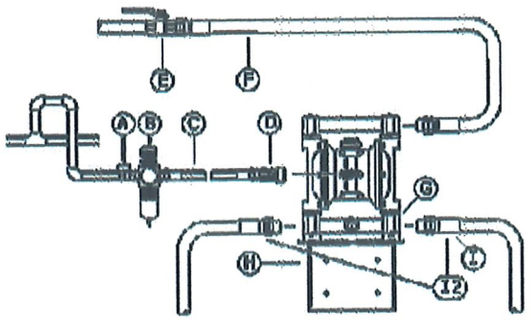
Pompe pneumatique à diaphragme d'un rapport de pression 1:1 munie de carcasses en aluminium et membranes en Buna N. Tout spécialement recommandée pour le transfert d'huile et pour l'évacuation d'huile usée.



Installation/ Instalación/ Installation

E

Please see figure 2, a typical installation with the recommended accessories for the pump to operate correctly.
NOTE: *The compressed air supply must be between 2 bar (30 psi) and 5 bar (70 psi).*



A título informativo, se muestra en figura 2 una instalación típica con los elementos recomendados para su correcto funcionamiento.
NOTA: *La presión de alimentación de aire debe estar comprendida entre 2 y 5 bar.*

R

La figure 2 présente à titre indicatif une installation typique dotée de tous les éléments nécessaires pour garantir un fonctionnement optimum de la pompe.
NOTE : *La pression d'alimentation en air doit être comprise entre 2 et 5 bar.*

POS	DESCRIPTION	DESCRIPCIÓN	DESCRIPTION
A	Shut-off valve air - 2088	Válvula de cierre aire	Vanne d'arrêt
B	Filter/Regulator - 958	Filtro-regulador	Filtre - Régulateur
C	Air hose - 822	Manguera aire	Flexible d'air
D	Quick coupler air - 940	Enchufe rápido aire	Raccord rapide pour air
E	Fluid shut-off valve - 2088	Válvula de cierre fluido	Vanne d'arrêt de fluide
F	Outlet hose - 863	Manguera de salida	Flexible de sortie
G	Diaphragm Pump – PN75	Bomba de diafragma	Pompe à membrane
H	Wall bracket - 2086	Soporte mural	Support mural
I (I2)	Suction hose (Dual Inlet) - 863	Manguera de succión	Flexible d'aspiration
Not Shown	Inlet Y Strainer - 1089		
Not Shown	Dual Manifolds – 2807		

Trouble shooting/ Anomalias y sus soluciones/ Anomalies et solutions

Symptom	Possible Causes	Solution
The pump continues operating although the outlet valve is closed.	There is a leak at some point of the outlet circuit.	Verify and tighten or repair.
	Worn check valve balls and/or seats.	Replace the worn items.
The pump does not operate, or cycles once and stops.	Air valve is stuck or dirty.	Disassemble and clean the air valve.
	Check valve ball severely worn and wedged in seat.	Replace ball and seat.
The pump operates erratically.	Clogged suction line.	Verify and clean the suction line.
	Sticky or leaking valve balls.	Clean or replace.
	Diaphragm ruptured.	Replace diaphragm.
Air bubbles in fluid.	Suction line loose or damaged.	Verify and tighten or replace.
	Diaphragm ruptured.	Replace diaphragm.
Fluid in exhaust air.	Diaphragm ruptured.	Replace diaphragm.
The pump exhausts air at stall.	Worn parts in air valve.	Repair or replace.

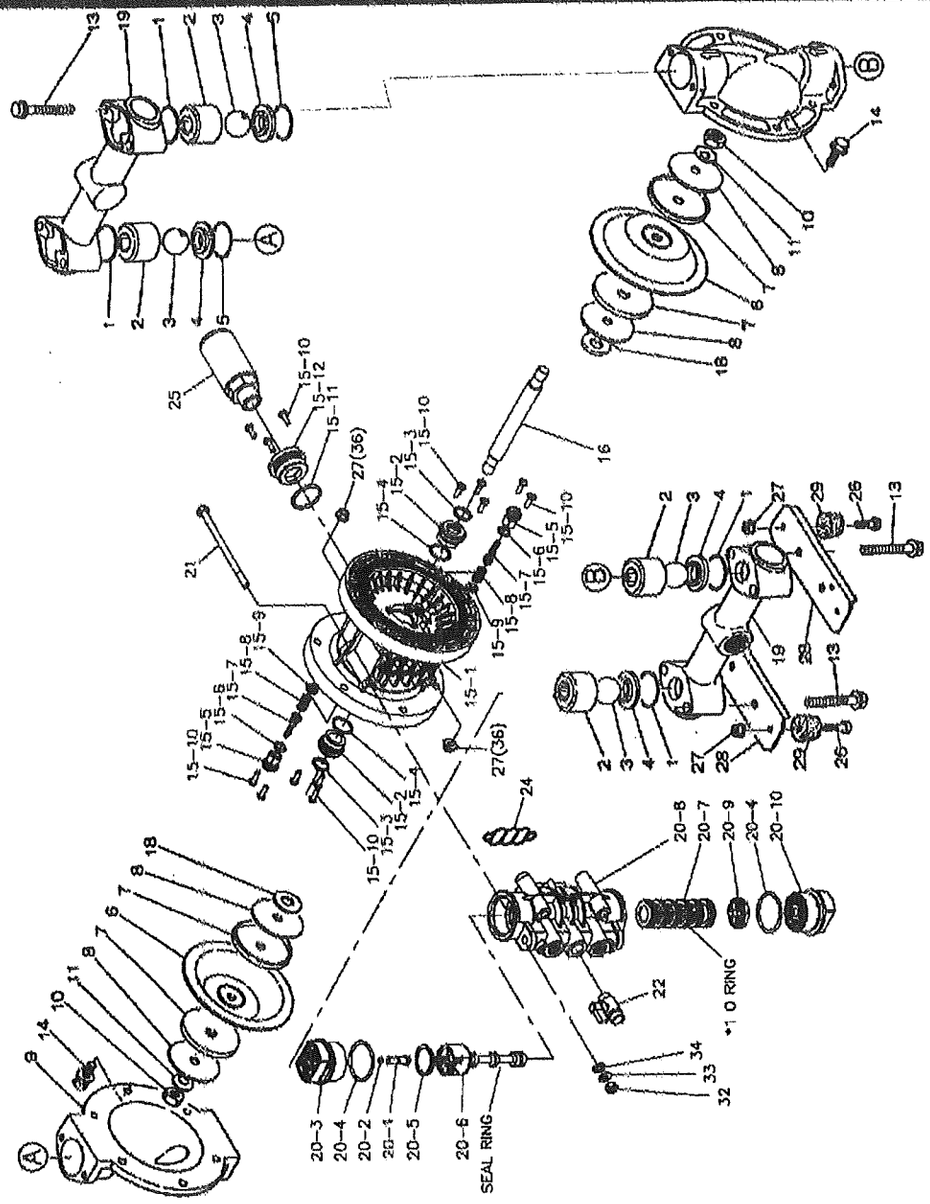
Síntomas	Posibles causas	Soluciones
La bomba sigue funcionando aunque se cierre la salida del fluido	Existe fuga en algun punto del circuito de salida.	Verificar y apretar o reparar.
	Bolas y/ o asientos gastadas.	Sustituir las piezas gastadas.
La bomba no bombea, o bombea una vez y luego para.	Válvula de aire obstruida.	Desmontar y limpiar la válvula.
	Bolas muy gastadas y atascadas en los asientos.	Sustituir bolas y asientos.
La bomba funciona incorrectamente.	Circuito de succion obstruido.	Verificar y limpiar el circuito.
	Bolas sucias o dañadas.	Limpiar o sustituir.
	Membrana rota.	Sustituir membrana.
El fluido sale con burbujas de aire.	Manguera de succión suelta o rota.	Apretar o sustituir la manguera.
	Membrana rota.	Sustituir membrana.
Sale fluido por el escape de aire.	Membrana rota.	Sustituir membrana.
Fuga de aire cuando la bomba esta parada.	Desgaste en la válvula de aire.	Reparar o sustituir.

Symptômes	Causes possibles	Solutions
La pompe continue à fonctionner bien que la vanne d'arrêt de fluide soit fermee.	Fuite en un certain point du circuit de sortie de fluide.	Contrôler et serrer ou remplacer.
	Boules et / ou assises usees.	Remplacer les pieces endommagees.
La pompe ne distribue pas ou fonctionne à contre-coups.	Soupape d'air bouchee.	Démonter et nettoyer la soupape.
	Les boules sont completements usées et bouchées au niveau des assises.	Remplacer les boules ainsi que les assises.
La pompe ne fonctionne pas correctement.	Le circuit d'aspiration est bouché.	Vérifier et nettoyer ce dernier.
	Boules sales ou endommagees.	Nettoyer et remplacer ces dernieres.
	Membrane endommagee.	Remplacer la membrane.
Le fluide sort avec des bulles d'air.	Flexible d'aspiration desserré ou endommagé.	Serrer ou remplacer ce dernier.
	Membrane endommagée.	Remplacer cette derniere.
Le fluide sort au niveau de l'echappee d'air.	Membrane endommagée.	Remplacer cette dernière.
Fuite d'air dès que la pompe est à l'arrêt.	La soupape d'air est usée.	Reparer ou remplacer cette dernière.

Technical information/ Informacion tecnica/ Caracteristiques techniques

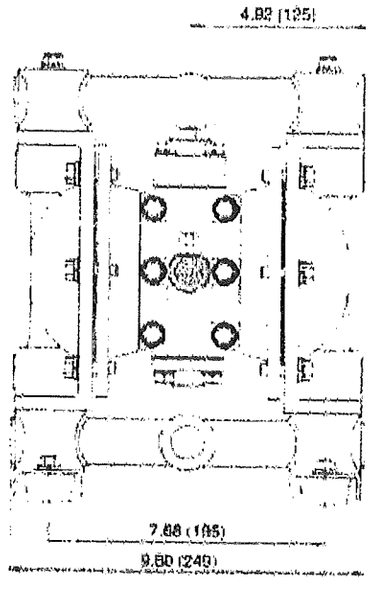
Max. fluid working pressure	Max. presion del fluido	Pression maxi du fluide	5 bar (70 psi)
Max. air consumption (at 5 bar air pressure)	Max. consumo de aire (a presion de aire 5 bar)	Consommation maxi d'air (pour 5 bar de pression d'air)	700 l/min (25 SCFM)
Max. free flow delivery	Max. caudal salida libre	Debit libre maxi de sortie	120 l/min (28 GPM)
Inlet air	Entrada aire	Entree d'air	3/8 " NPT
Fluid inlet and outlet	Entrada y salida fluido	Entree et sortie fluide	1 " NPT Side Ports
Weight	Peso	Poids	9 Kg. (20 lb)

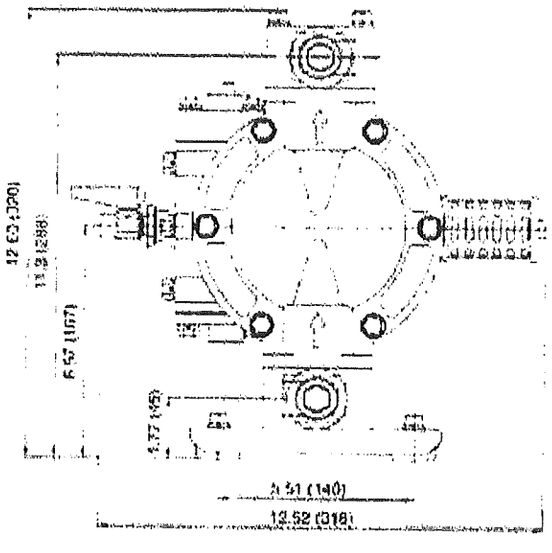
Parts drawing/ Dibujo de piezas/ Vue eclatée



Repair kit available/ Kit de reparación disponibles/ Kits de réparation disponibles

Description	Descripción	Description	Include pos/ Incluye pos/ Inclut les pos.	Part No./ Cód./ Réf.
Fluid section	Sección fluido	Section de fluide	1, 3, 5, 6,	K20MN
Air Valve	Válvula de aire	Soupape d'air	15 (3,4,5,6,7,8,9) 20 (2,4,5,9) 24	K225-AP





SAMSON
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ENROULEUR ALUMINIUM - SÉRIE 506

Spare parts and technical service guide
Guía de servicio técnico y recambios
Guide d'Instructions et pièces de rechange

Part No. / Cód. / Réf.:

506 XXX

WARNING / ATENCIÓN / ATTENTION

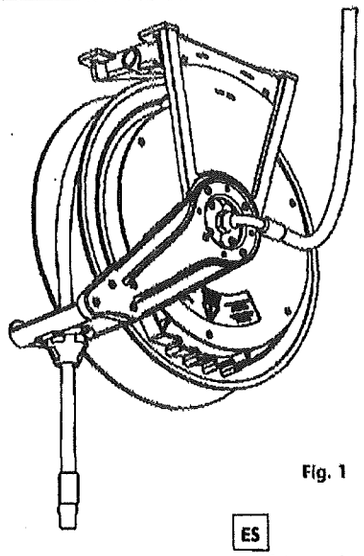

Fig. 1

EN

- This equipment is for professional use only.
- Do not allow the hose to recoil unattended.
- Ensure that pressure does not exceed maximum working pressure of lowest rated system component.
- Use fluids and solvents that are compatible with the equipments wetted parts.
- Release pressure inside the reel before servicing.
- The spring is always under great tension. To reduce the risk of serious injury:
  - Do not attempt to remove spring.
  - Do not attempt to replace or service the spring.
- Fluids under pressure can cause serious injury.

ES

- Este equipo es para uso profesional.
- Acompañe siempre la recogida de la manguera.
- No sobrepase la presión de trabajo del componente menos resistente de la instalación.
- Use con fluidos compatibles con los materiales de las partes húmedas.
- Elimine la presión interior del fluido durante las operaciones de mantenimiento.
- El resorte está siempre bajo tensión. Para reducir el riesgo de daño:
  - No quite el resorte.
  - No intente cambiar ni manipular el resorte.
- Los fluidos sometidos a presión pueden causar graves daños.

FR

- Cet équipement est destiné uniquement à un usage professionnel.
- Toujours accompagner le flexible lors de l'enroulement.
- Ne pas dépasser la pression de travail maximum des composants les plus faibles de l'installation.
- Utiliser des fluides et des solvants qui sont compatibles avec les matériaux des parties humides de l'enrouleur.
- Éliminer préalablement la pression interne du fluide au cours des opérations d'entretien.
- Le ressort est toujours sous grande tension. Pour réduire le risque des blessures graves:
  - Ne pas essayer d'enlever le ressort.
  - Ne pas essayer de changer ou de manipuler le ressort.
- Les fluides sous pression peuvent causer des blessures graves.

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Description / Descripcion / Description

EN

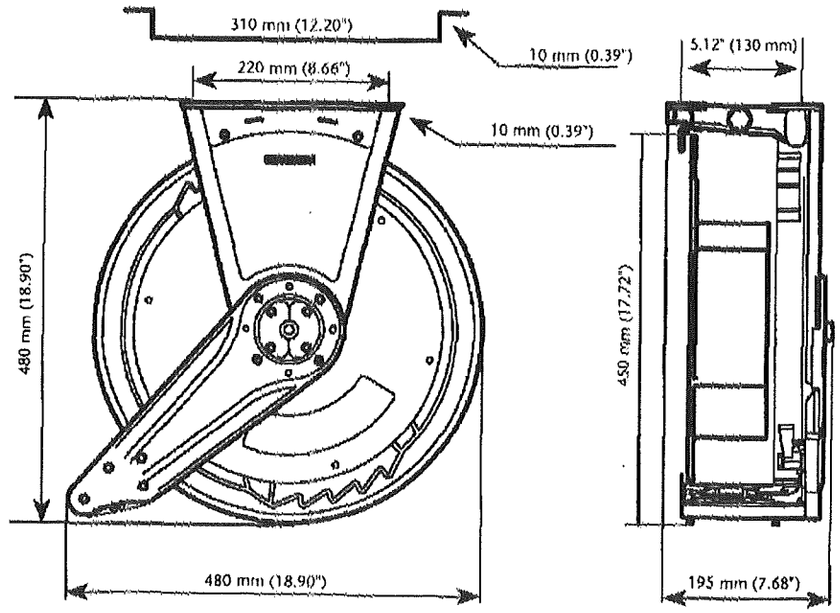
Open hose reel for air, water (cold or hot; high or low pressure), antifreeze, vacuum, lubricants, grease and other fluids depending on model.
Hose can be extended to the desired length and latched with the mechanism.
By pulling the hose, the latch is released and the hose is automatically rewound.

ES

Enrollador de manguera abierto para aire, agua (fría o caliente; alta o baja presión), anticongelante, aplicaciones de vacío, detergentes, lubricantes, grasa y otros fluidos según modelos.
Al tirar de la manguera, esta se desenrolla pudiendo bloquearse a la longitud deseada por acción de un trinquete.
Para recoger la manguera, basta con tirar ligeramente de ella para que sea recogida automáticamente.

FR

Enrouleur ouvert pour l'air, l'eau (froide ou chaude; haute ou basse pression), antigel, applications sous vide, détergents, lubrifiants ou graisse selon le modèle.
Le flexible peut être déroulé à la longueur désirée et verrouillé avec le mécanisme à cliquet. Pour enrouler le flexible, il suffit de tirer légèrement celui-ci jusqu'à ce que le verrou soit libéré et qu'il soit automatiquement rembobiné.



EN

Hose reel can be installed directly onto a fixed surface or using a plate (fig. A) or a pivoting bracket (fig. B).
For optimal operation; the hose arm guide can be mounted in these positions:

- **PERPENDICULAR REELING**
  Recommended for ceiling and wall or column under 2.5 m (8 feet) (see fig. 2).
- **SIDE REELING**
  Recommended for wall, column, bench, tank, etc, (see fig 3).
- **TANGENTIAL REELING**
  Recommended for wall or column at a height above 2.5 m (8 feet), mobile units, lube truck, tank assemblies, etc. (see fig. 4).

ES

El enrollador puede instalarse directamente sobre la superficie de montaje, una base de fijación (fig. A) o un soporte pivotante (fig. B).
El brazo de salida tiene varias posiciones para un adecuado funcionamiento:

- **PERPENDICULAR REELING**
  Para montaje en techo o sobre pared por debajo de 2.5 m (8 pies) (ver figura 2).
- **SIDE REELING**
  Para montaje sobre suelo, columna, foso, depósito, banco... (ver figura 3).
- **TANGENTIAL REELING**
  Para montaje sobre pared por encima de 2.5 metros (8 pies). También adecuado para montaje sobre unidades móviles (ver figura 4).

FR

L'enrouleur peut être installé directement sur une surface fixe ou en utilisant une plaque (fig. A) ou un support pivotant (fig. B).
Pour un fonctionnement optimal, le bras de guidage du flexible peut être monté dans différentes positions:

- **DÉROULEMENT PERPENDICULAIRE**
  Recommandé pour les plafonds et murs en dessous de 2,5 m (8 pieds) (voir fig. 2).
- **DÉROULEMENT DE CÔTÉ**
  Recommandé pour montage au sol, en fosse, sur potence ou portique, citerne, établi, etc, (voir fig. 3).
- **DÉROULEMENT TANGENTIEL**
  Recommandé pour montage mural à une hauteur supérieure à 2,5 m (8 pieds). Convient également pour les unités mobiles (voir fig. 4).

Fig. A

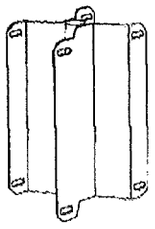


Fig. B

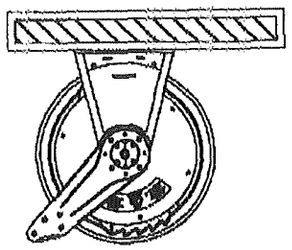


Fig. 2

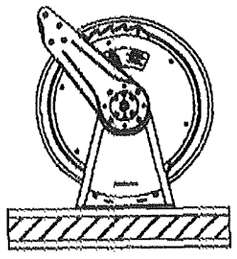


Fig. 3

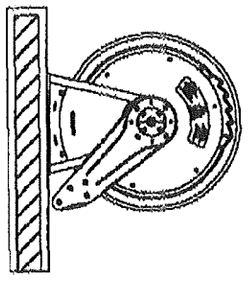


Fig. 4

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EN

To reposition the hose guide arm, follow these steps:

1. Clamp the spool with c-clamp to lock the hose reel (fig. C).
2. Remove the hose stop.
3. Unscrew the fixing screws (fig. 5).
4. Place the hose guide arm in the required position and screw the fixing screws.
5. Insert the hose reel through the hose outlet and assemble the hose stop. Affix the hose stop.
6. Unlock the spool.

ES

Para mover el brazo de salida, el procedimiento es el siguiente:

1. Fije el disco del enrollador con un sargento (fig. C).
2. Quite el tope manguera.
3. Afloje los tornillos del brazo superior (fig. 5).
4. Coloque el brazo del enrollador en la posición deseada y apriete los tornillos.
5. Introduzca la manguera por la salida de manguera y coloque el tope manguera de nuevo.
6. Quite el sargento para liberar el disco del enrollador.

FR

Pour repositionner le bras de guidage du flexible, la procédure est la suivante:

1. Fixer le disque de l'enrouleur avec un serre-joints pour bloquer le tambour (fig. C)
2. Retirez la butée d'arrêt du flexible.
3. Desserrez les vis sur la partie supérieure du bras (fig. 5).
4. Placez le bras de la bobine dans la position désirée et serrer les vis.
5. Insérer le flexible à travers la sortie à galets, monter la butée d'arrêt sur le flexible et la bloquer.
6. Retirer le serre-joints.

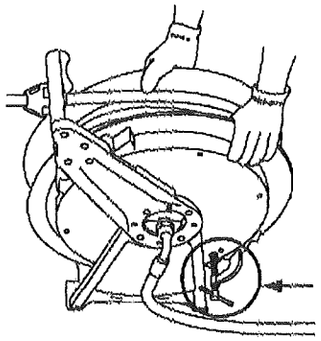

Fig. C

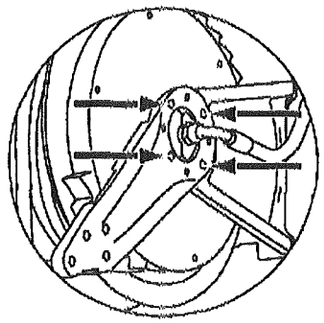

Fig. 5

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Hose installation / Instalación de la manguera / Montage du flexible

EN

- Clamp the hose reel firmly to a work bench.
- Pre tension the hose reel power spring by rotating the spool:

10 m spring: 16 turns
15 m spring: 19 turns
15 m HD spring: 21 turns

- Introduce the hose end to fix to the hose reel through the outlet guide and then through the opening in the drum of the spool. Pull the hose through the drum towards the swivel.
- Fix the hose to the swivel as indicated in figure 8a and fix the U bolt as shown in figure 8b.
- Fix the hose stop to the free end of the outlet hose.
- Pull out the hose slightly to free the spool latch and then gradually release the hose to allow the hose reel to wind up the hose.
- If the hose reel does not rewind satisfactorily then adjust the tension of the power spring (see "Spring load adjustment").

ES

- Sujete el enrollador a una base firmemente.
- Aplique al enrollador sin manguera las vueltas de pretensión que se indican a continuación.

Resorte para 10 m: 16 vueltas
Resorte para 15 m: 19 vueltas
Resorte para 15 m HD: 21 vueltas

- Introduzca el extremo de la manguera por la salida del enrollador y el orificio del tambor hasta llegar a la rótula.
- Fije la manguera a la rótula como se indica en la figura 8a y coloque el abarcón según la figura 8b.
- Coloque el tope de manguera en el extremo libre.
- Libere el trinquete tirando ligeramente de la manguera y dejar que enrolle suavemente.
- Si es necesario ajustar la tensión del resorte, siga las instrucciones del apartado "Ajuste de la tensión del resorte".

FR

- Fixer l'enrouleur fermement sur un plan de travail.
- Appliquer au ressort de l'enrouleur sans flexible une pré-tension en tournant le tambour selon les instructions ci-dessous:

Ressort pour 10m: 16 tours
Ressort pour 15m: 19 tours
Ressort HD 15m grande longueur: 21 tours

- Introduire l'extrémité du tuyau à fixer sur l'enrouleur à travers le bras de guidage, puis par l'ouverture dans le tambour jusqu'à la rotule.
- Fixer le flexible à la rotule comme indiqué dans la figure 8a et fixer les boulons en « U » comme illustré dans la figure 8b.
- Fixer la butée d'arrêt à l'extrémité du flexible, après le bras de guidage.
- Libérer le cliquet tirant doucement sur le flexible et laissez tourner en douceur pour rembobiner complètement le flexible.
- Si l'enrouleur ne rembobine pas le flexible de manière satisfaisante, ajuster la puissance de tension du ressort (voir « réglage de la tension du ressort»).

Hose installation / Instalación de la manguera / Montage du flexible

EN

WARNING

BEFORE REMOVING THE HOSE, CLOSE THE NEAREST SHUT OFF VALVE TO THE REEL AND OPEN THE FLUID CONTROL GUN TO RELEASE THE PRESSURE INSIDE THE HOSE.

NOTE: During hose installation, tighten the U-bolt just till the hose gets slightly deformed. Do not overtighten the U-bolt, since the hose could be damaged.

- Unwind the hose completely and then search for the ratchet locking position (fig. 6).
- Remove the hose stop (fig. 7).
- Disconnect the hose as shown (fig. 8a). Release the hose from the disk by removing the clamp (fig. 8b).
- Pass the new hose through the hose outlet and connect it again to the hose reel. Assemble the clamp and assemble the hose stop to the required length.
- Pull the hose hard enough to release the latch, and slowly allow the hose to retract (fig. 9).

ES

ATENCIÓN

ANTES DE RETIRAR LA MANGUERA, CIERRE LA LLAVE DE SERVICIO MÁS CERCANA AL ENROLLADOR Y ABRIR LA PISTOLA DE SUMINISTRO A FIN DE LIBERAR EL FLUIDO A PRESIÓN DE LA MANGUERA.

NOTA: Durante la instalación de la manguera, apriete el abarcón sólo hasta deformar ligeramente la manguera. Evite apretar el abarcón en exceso pues la manguera puede llegar a dañarse.

- Desenrolle totalmente la manguera usada y busque la posición de bloqueo del trinquete más próxima a esta longitud (fig. 6).
- Afloje entonces el tope de manguera y desmóntelo (fig. 7).
- Desconecte la manguera usada según se indica en la imagen (fig. 8a) y libere la manguera del disco retirando el abarcón de fijación manguera (fig. 8b).
- Conecte la manguera nueva para ello introduzca el extremo de la manguera por la salida del enrollador y el orificio del tambor hasta llegar a la rótula y conecte de nuevo al enrollado y fije correctamente el abarcón. Coloque el tope manguera.
- Libere el trinquete y acompañe lentamente la manguera al recogerse (fig. 9).

FR

ATTENTION

AVANT DE RETIRER LE FLEXIBLE, FERMER LA VANNE D'ARRÊT LA PLUS PROCHE DE L'ENROULEUR ET OUVREZ LA POIGNÉE DE DISTRIBUTION POUR LIBÉRER LA PRESSION DU FLUIDE À L'INTÉRIEUR DU TUYAU.

NOTE : Lors de l'installation du tuyau, serrez le boulon en U graduellement jusqu'à ce que le tuyau se déforme très légèrement. Évitez de trop serrer le boulon en U car cela endommagerait le tuyau.

- Déroulez complètement le flexible jusqu'à la dernière position de verrouillage du cliquet (fig. 6).
- Desserrez et retirez la butée d'arrêt du flexible (fig. 7).
- Débranchez le flexible comme indiqué (fig. 8a). Dévissez le boulon en « U » et retirez le flexible (fig. 8b).
- Introduire l'extrémité du nouveau flexible dans l'enrouleur à travers le bras de guidage, puis par l'ouverture dans le tambour et le fixer sur la rotule. Visser le boulon en « U » pour maintenir correctement le flexible. Fixer la butée d'arrêt à l'extrémité du flexible, après le bras de guidage.
- Libérer le cliquet tirant doucement sur le flexible et rembobiner lentement et complètement le tuyau en l'accompagnant (fig. 9).

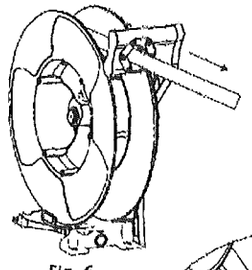

Fig. 6

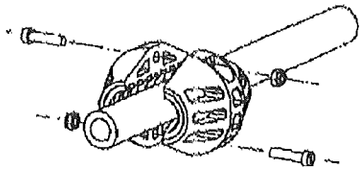

Fig. 7

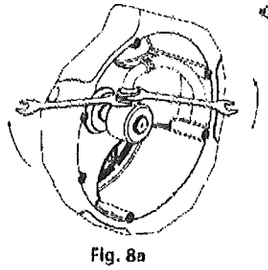

Fig. 8a

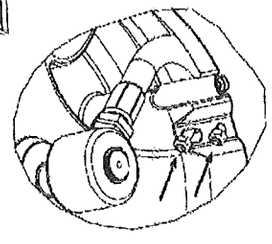

Fig. 8b

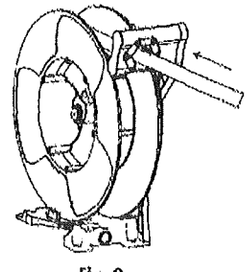

Fig. 9

Spring load adjustment / Ajuste de la tensión del resorte / Réglage de la tension du ressort

EN

WARNING

DO NOT OVER TENSION THE REEL, EXCESSIVE STRAIN ON THE HOSE AND REEL SPRING COULD DAMAGE THE REEL.

To increase spring tension

1. Pull the hose out 10 feet (3 metres) and let the hose reel latch (fig. 11).
2. Wind the hanging hose into the reel (fig. 13).
3. Gently pull the hose, it will be automatically rewound (fig. 14).
4. Repeat if more spring tension is required.

To decrease spring tension

1. Pull the hose out 10 feet (3 metres) and let the hose reel latch (fig. 11).
2. Unwind one turn and pull the hose (fig. 12).
3. Gently pull the hose, the hose is automatically rewound (fig. 14).
4. Repeat if less spring tension is required.

ES

ATENCIÓN

NO AÑADA DEMASIADAS VUELTAS AL ENROLLADOR. UNA TENSIÓN EXCESIVA PODRÍA DAÑAR EL MUELLE Y LA MANGUERA.

Para dar tensión

1. Extraiga unos 10 pies (3 metros) de manguera y trinque la manguera (fig. 11).
2. Introduzca una vuelta de la manguera, en el disco del enrollador (fig. 13).
3. Tire suavemente de la manguera hasta que quede liberada del trinquete y se recoja por si misma (fig. 14).
4. Repita los pasos anteriores si necesita más tensión.

Para quitar tensión

1. Extraiga unos 10 pies (3 metros) de manguera y trinque la manguera (fig. 11).
2. Quite una vuelta de manguera del interior del disco del enrollador (fig. 12).
3. Tire suavemente de la manguera hasta que quede liberada del trinquete y se recoja por si misma (fig. 14).
4. Repita los pasos anteriores si necesita menos tensión.

FR

ATTENTION

NE PAS DONNER TROP DE TENSION À L'ENROULEUR. UNE TENSION EXCESSIVE SUR LE FLEXIBLE ET LE RESSORT POURRAIT ENDOMMAGER L'ENROULEUR.

Pour augmenter la tension du ressort

1. Tirer le flexible de 3 mètres et bloquer le tambour au moyen du cliquet (fig. 11).
2. Insérer le flexible sur un tour à l'intérieur du tambour par une flasque de l'enrouleur (fig. 13).
3. Tirer doucement sur le flexible pour le libérer du cliquet et accompagner jusqu'à ce qu'il soit complètement rembobiné (fig. 14).
4. Répéter l'opération s'il est nécessaire d'augmenter la tension du ressort.

Pour diminuer la tension du ressort

1. Tirer le flexible de 3 mètres et bloquer le tambour au moyen du cliquet (fig. 11).
2. Détendre un tour de flexible et le retirer du tambour (fig. 12).
3. Tirer doucement sur le flexible pour le libérer du cliquet et accompagner jusqu'à ce qu'il soit complètement rembobiné (fig. 14).
4. Répéter l'opération s'il est nécessaire de diminuer la tension du ressort.

Spring load adjustment / Ajuste de la tensión del resorte / Réglage de la tension du ressort

EN | ES | FR

Part. No. / Cód. / Réf.	Description / Descripción / Description	Standard pre tension turns / Vueltas nominales pretensión trabajo / Tours de tension nominale du ressort	Max. pre tension turns / Vueltas máximas pretensión de trabajo / Tours de tension maximale du ressort
850310	Standard spring / Resorte estandar / Ressort standard / (10 m - 33')	5	9
850311	Severe spring / Resorte severo / Ressort renforcé / (15 m - 49' HD)	7	7
850313	High spring / Resorte alto / High spring / (15 m - 49')	5	10

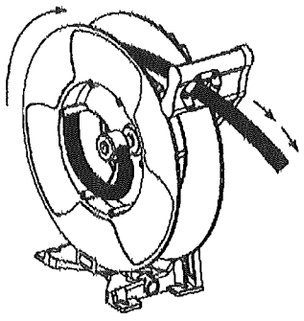

Fig.11

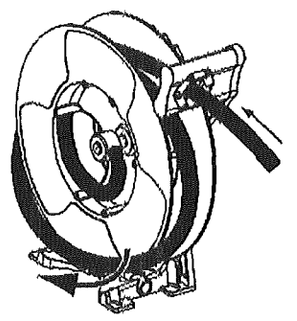

Fig.12

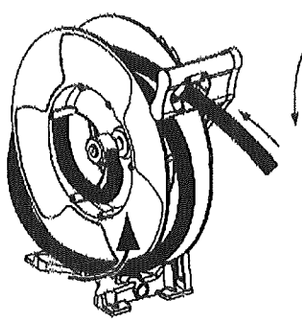

Fig.13

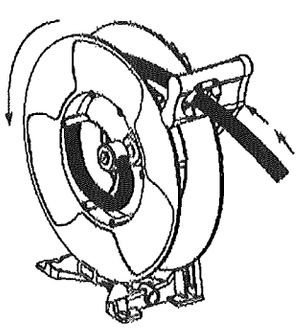

Fig.14

Swivel replacement / Sustitución de la rótula / Remplacement de la rotule

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EN

WARNING

BEFORE REMOVING THE DAMAGED SWIVEL, CLOSE THE NEAREST SHUT OFF VALVE TO THE REEL AND OPEN THE FLUID CONTROL GUN TO RELEASE THE PRESSURE INSIDE THE HOSE.

- Pull the hose out and let the hose reel latch (fig. 15).
- Unscrew the nuts with two spanners (fig. 16).
- Remove the circlip and pull the swivel. Be careful not to damage the swivel O-Ring (fig. 17).
- Assemble the new swivel and re-assemble the pieces in reverse order.

ES

ATENCIÓN

ANTES DE QUE RETIRE LA RÓTULA DAÑADA, CIERRE LA LLAVE DE SERVICIO MÁS CERCANA AL ENROLLADOR Y ABRA LA PISTOLA DE SUMINISTRO A FIN DE LIBERAR EL FLUIDO A PRESIÓN DE LA MANGUERA.

- Tire de la manguera hasta que quede trincada en el enrollador (fig. 15).
- Con dos llaves, afloje la manguera de la rótula (fig. 16).
- Quite la arandela de seguridad y tire de la rótula hacia fuera con cuidado de no dañar la junta interior (fig. 17).
- Coloque la nueva rótula y realice los pasos anteriores en sentido inverso.

Swivel replacement / Sustitución de la rótula / Remplacement de la rotule

FR

ATTENTION

AVANT DE RETIRER LA ROTULE ENDOMMAGÉE, FERMER LA VANNE D'ARRÊT LA PLUS PROCHE DE L'ENROULEUR ET OUVRIR LA POIGNÉE DE DISTRIBUTION POUR LIBÉRER LA PRESSION DU FLUIDE À L'INTÉRIEUR DU TUYAU.

- Tirer le tuyau jusqu'au verrouillage du cliquet (fig. 15).
- Avec deux clés, desserrer le flexible de la rotule (fig.16).
- Enlever le circlip et tirer sur la rotule. Attention à ne pas endommager le joint torique intérieur (fig. 17).
- Placer la nouvelle rotule et exécuter les étapes ci-dessus dans l'ordre inverse.

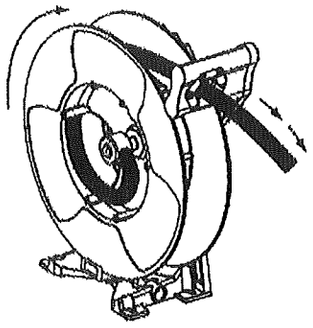

Fig.15

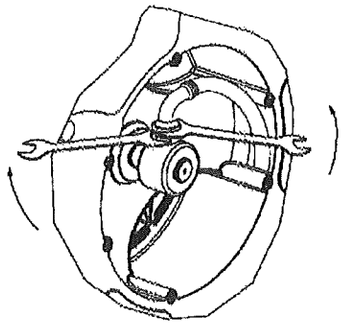

Fig.16

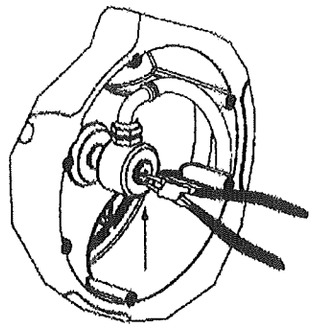

Fig. 17

Ratchet Replacement / Sustitución de trinquete / Remplacement du cliquet

EN

- Remove the nut that fixes the latch (fig. 18).
- Replace the latch and/or the latch spring.
- Re-assemble the pieces in reverse order.

ES

- Quite la tuerca que une el trinquete con el brazo del enrollador (fig. 18).
- Remplace el trinquete y/o resorte trinquete defectuoso.
- Realice los pasos anteriores en sentido inverso.

FR

- Retirer le boulon qui fixe le cliquet sur le bras de l'enrouleur (fig. 18).
- Remplacer le cliquet et / ou le ressort défectueux.
- Effectuer les étapes ci-dessus en sens inverse.

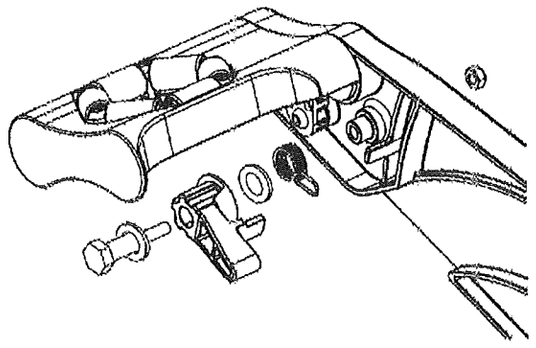

Fig. 18

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EN

Symptom	Possible Causes	Solution
Hose does not rewind.	Spring is not tensioned enough.	Increase spring tension.
Leaking hose reel.	Hose has a hole or is damaged.	Replace the hose.
Leaking swivel.	Damaged swivel rings.	Replace the swivel rings.
Hose does not extend out as much as required.	Spring is over tensioned.	Decrease spring tension.
Hose reel does not latch.	Damaged ratchet.	Replace the ratchet.
	Ratchet not fitted.	Assembly the ratchet properly.
	Damaged spring ratchet.	Change the ratchet spring.

ES

Síntoma	Posibles causas	Solución
El enrollador no recoge.	El muelle ha perdido tensión o se ha roto.	De tensión al resorte o reemplazarlo.
La manguera pierde fluido.	Manguera con poro o rota.	Cambie la manguera.
La rótula pierde fluido.	Rótula deteriorada.	Cambie la rótula.
La manguera no sale todo lo que debería.	Demasiada tensión en el resorte.	Quite tensión al resorte.
El enrollador no trinca.	Trinquete deteriorado.	Cambie el trinquete.
	Trinquete fuera de su lugar.	Coloque el trinquete adecuadamente.
	Muelle trinquete deteriorado.	Sustituya el muelle del trinquete.

FR

Symptôme	Cause possible	Solution
Le flexible ne s'enroule plus.	La tension du ressort est insuffisante ou le ressort est cassé.	Augmenter la tension du ressort ou le remplacer.
Fuite au niveau du flexible.	Le flexible est percé ou endommagé.	Remplacer le flexible.
Fuite au niveau de la rotule.	La rotule est détériorée.	Remplacer la rotule.
Le flexible ne se déroule pas entièrement.	Trop de tension sur le ressort.	Diminuer la tension du ressort.
L'enrouleur ne se verrouille pas.	Le cliquet est endommagé.	Remplacer le cliquet.
	Le cliquet n'est pas ajusté correctement.	Ajuster le cliquet.
	Le ressort du cliquet est détérioré.	Remplacer le ressort du cliquet.

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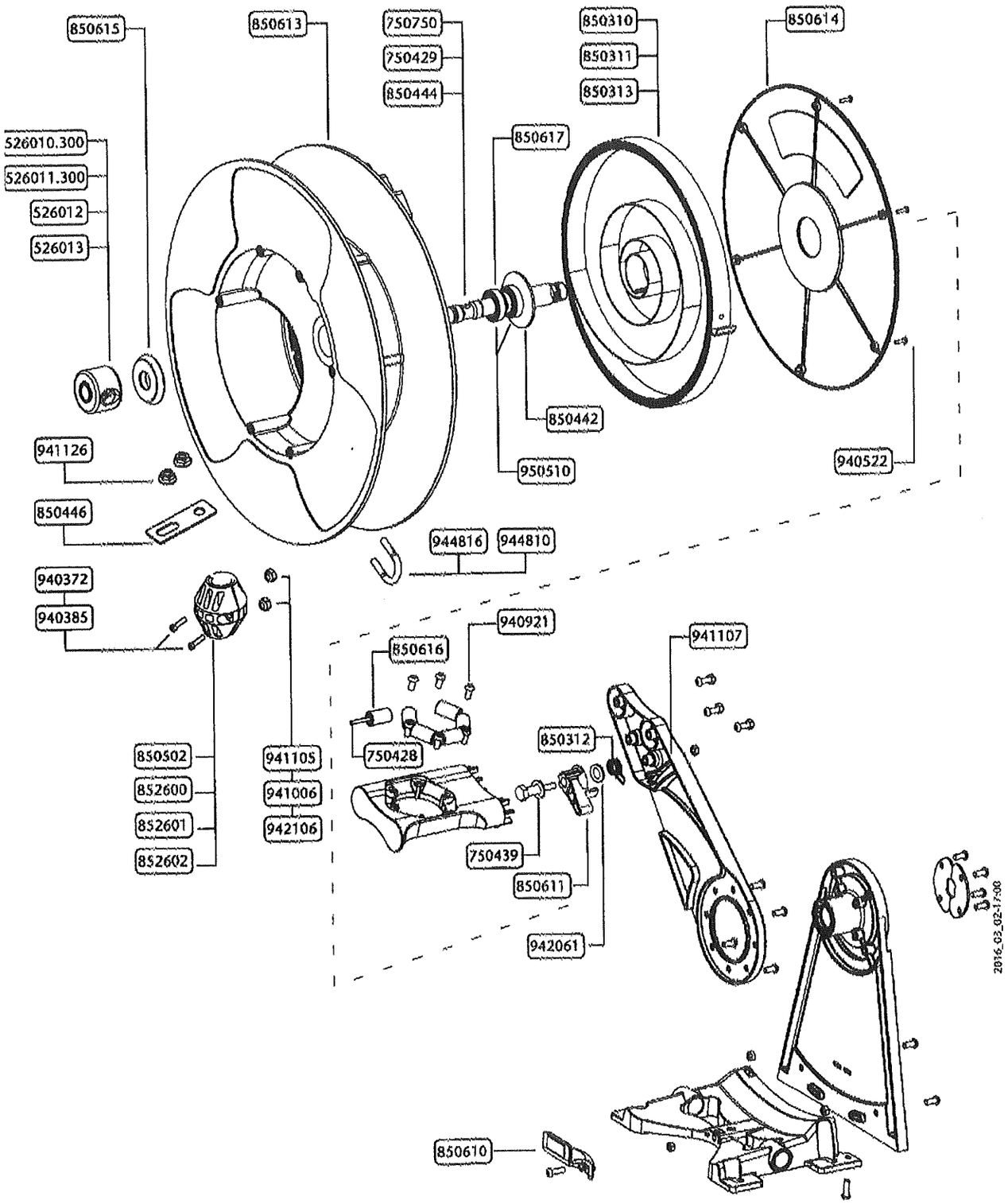
850615
850613
750750
750429
850444
850310
850311
850313
850614
526010.300
526011.300
526012
526013
850617
850442
950510
940522
941126
850446
944816
944810
940372
940385
940921
941107
850616
750428
850312
850502
852600
852601
852602
941105
941006
942106
750439
850611
942061
850610
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Part list / Lista de recambios / Pièces de rechange

EN | ES

Kit No. / Cód. kit	Part. No incl. / Cód. incl.	Description	Descripción
526010.300	**Oil, vacuum and cold water swivel kit / Kit rótula aceite, vacío y agua**		
	850419	Body swivel Stainless Steel	Rótula Inoxidable
	945710	Elbow 90° fitting 1/2" NPT (M) - 1/2" NPSM (F)	Codo 30° 1/2" NPT (M) - 1/2" NPSM (H)
	946032 (x2)	O-ring NBR	Junta tórica NBR
526011.300	**Grease swivel kit / Kit rótula grasa**		
	750430	Body swivel	Rótula
	946012 (x2)	O-ring NBR	Junta tórica NBR
	945709	Elbow 90° fitting 1/2" NPT (M) - 1/2" NPSM (F)	Codo 30° 3/8" NPT (M) - 3/8" NPSM (H)
	946307 (x2)	Back-up ring	Junta tórica
526012	**High pressure hot water swivel kit / Kit rótula agua caliente alta presión**		
	850419	Body swivel Stainless Steel	Rótula Inoxidable
	945593	Fitting R 1/2" - 1/2" (MM)	Adaptador R 1/2" - 1/2" (MM)
	946650	O-ring Roto Glyd Ring®	Junta tórica Roto Glyd Ring®
526013	**Windscreen washer swivel kit / Kit rótula limpiaparabrisas y adblue**		
	850445	Body swivel AISI - 316	Rótula AISI - 316
	945703	Fitting R 1/2" - 1/2" NPT-BSP AISI - 316	Adaptador R 1/2" - 1/2" NPT - BSP AISI - 316
	946145 (x2)	O-ring Viton	Junta tórica Viton
526020	**Ratchet kit / Kit trinquete**		
	850312	Ratchet spring AISI - 316	Resorte trinquete AISI - 316
	750439	Ratchet Axle	Eje trinquete
	850611	Ratchet	Trinquete
	941107	Nut AISI - 316	Tuerca autoblocante AISI - 316
	942061 (x2)	Washer AISI - 316	Arandela AISI - 316
526021	**Hose outlet kit / Kit salida**		
	850616 (x6)	Hose roller	Rodillo salida manguera
	750428 (x6)	Roller axle	Eje salida manguera
	940921 (x6)	Screw	Tornillo
526001	**Hose-stop and U-bolt kit / Kit tope manguera y abarcón (aire, agua y grasa 3/8", aceite 1/2")**		
	944816	U-bolt AISI - 316	Abarcón AISI - 316
	941126 (x2)	Nut AISI - 316	Tuerca autoblocante AISI - 316
	852601 (x2)	Hose-stop	Bicono
	940372 (x2)	Screw	Tornillo
	941105 (x2)	Nut	Tuerca autoblocante
	850446	Plate u.bolt AISI - 316	Pletina abarcón AISI - 316
526002	**Hose-stop and U-bolt kit / Kit tope manguera y abarcón (aire, agua, limpiaparabrisas y AdBlue 1/2")**		
	944816	U-bolt AISI - 316	Abarcón AISI - 316
	941126 (x2)	Nut AISI - 316	Tuerca autoblocante AISI - 316
	852602 (x2)	Hose-stop	Bicono
	940372 (x2)	Screw	Tornillo
	941105 (x2)	Nut	Tuerca autoblocante
	850446	Plate u-bolt Aisi - 316	Pletina abarcón AISI - 316

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Kit N°	Références incluses	Désignation
526010.300	**Kit rotule huile, eau froide et vide**	
	850419	Rotule acier inoxydable
	945710	Coude 90° 1/2" NPT (M) - 1/2" NPSM (H)
	946032 (x2)	Joint torique NBR
526011.300	**Kit rotule graisse**	
	750430	Rotule
	946012 (x2)	Joint torique NBR
	945709	Coude 90° 3/8" NPT (M) - 3/8" NPSM (H)
	946307 (x2)	Joint torique
526012	**Kit rotule eau chaude à haute pression**	
	850419	Rotule acier inoxydable
	945593	Adaptateur R 1/2" - 1/2" (MM)
	946650	Joint torique Roto Glyd Ring®
526013	**Kit rotule LR-LG et AdBlue**	
	850445	Rotule AISI - 316
	945703	Adaptateur R 1/2" - 1/2" NPT - BSP AISI - 316
	946145 (x2)	Joint torique viton
526020	**Kit cliquet**	
	850312	Ressort cliquet AISI - 316
	750439	Axe du cliquet
	850611	Cliquet
	941107	Écrou autobloquant AISI - 316
	942061 (x2)	Rondelle AISI - 316
526021	**Kit de sortie à galets**	
	850616 (x6)	Galets
	750428 (x6)	Axes
	940921 (x6)	Vis
526001	**Kit butée d'arrêt pour flexible et boulon en « U » (air, eau et graisse 3/8", huile 1/2")**	
	944816	Boulon en « U » AISI - 316
	941126 (x2)	Écrou autobloquant AISI - 316
	852601 (x2)	Butée
	940372 (x2)	Vis
	941105 (x2)	Écrou autobloquant
	850446	Platine pour boulon en « U »
526002	**Kit butée d'arrêt pour flexible et boulon en « U » (air, eau, LR-LG et AdBlue 1/2")**	
	944816	Boulon en « U » AISI - 316
	941126 (x2)	Écrou autobloquant AISI - 316
	852602 (x2)	Butée
	940372 (x2)	Vis
	941105 (x2)	Écrou autobloquant
	850446	Platine pour boulon en « U » AISI - 316

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EN ES

Kit No. / Cód. kit	Part. No incl. / Cód. incl.	Description	Descripción
526004	**Hose-stop and U-bolt kit / Kit tope manguera y abarcón (agua caliente 3/8" y grasa 1/4")**		
	944810	U-bolt AISI - 316	Abarcón AISI - 316
	941126 (x2)	Nut AISI - 316	Tuerca autoblocante AISI - 316
	852600 (x2)	Hose-stop	Bicono
	940372 (x2)	Screw	Tornillo
	941105 (x2)	Nut	Tuerca autoblocante
	850446	Plate u-bolt AISI - 316	Pletina abarcón AISI - 316
526003	**Hose-stop and U-bolt kit / Kit tope manguera y abarcón (aceite usado)**		
	944816	U-bolt AISI - 316	Abarcón AISI - 316
	941126 (x2)	Nut AISI - 316	Tuerca autoblocante AISI - 316
	850502	Hose - Stop	Tope manguera
	940385	Screw	Tornillo
	941006	Nut	Tuerca autoblocante
	942106 (x2)	Washer	Arandela
	850446	Plate u-bolt AISI - 316	Pletina abarcón AISI - 316
526022	**Spool and grease reel shaft kit / Kit disco y eje para grasa**		
	850615	Washer	Arandela tope disco
	850613	Spool	Disco enrollador completo
	750429	High pressure shaft	Eje para grasa
	950510 (x2)	Ball bearing	Rodamiento
	850617	Spacer	Espaciador rodamientos
	850614	Spring cover	Tapa resorte
	940522 (x6)	Screw	Tornillo cierre tapa resorte
	850442	Spring washer	Arandela resorte
526023	**Spool and fluid reel shaft kit / Kit disco y eje para fluidos**		
	850615	Washer	Arandela tope disco
	850613	Spool	Disco enrollador completo
	750424	Low-medium pressure shaft	Eje para fluido
	950510 (x2)	Ball bearing	Rodamiento
	850617	Bushing	Espaciador rodamientos
	850614	Spring cover	Tapa resorte
	940522 (x6)	Screw	Tornillo cierre tapa resorte
	850442	Spring washer	Arandela resorte
526024	**Spool and fluid reel shaft kit / Kit disco y eje para fluidos para limpiaparabrisas y adblue**		
	850615	Washer	Arandela tope disco
	850613	Spool	Disco enrollador completo
	850444	Shaft AISI - 316	Eje AISI - 316
	950510 (x2)	Ball bearing	Rodamiento
	850617	Bushing	Espaciador rodamientos
	850614	Spring cover	Tapa resorte
	940522 (x6)	Screw	Tornillo cierre tapa resorte
	850442	Spring washer	Arandela resorte

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Part. No / Cód.	Description	Descripción
850310	Standard spring (10 m - 33')	Resorte (10 m - 33')
850311	Severe spring (15 m - 49' HD)	Resorte (15 m - 49' HD)
850313	High spring (15 m - 49' HD)	Resorte (15 m - 49' HD)

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Kit N°	Références incluses	Désignation
526004	Kit butée d'arrêt pour flexible et boulon en « U » (eau chaude 3/8"et graisse 1/4")	
	944810	Boulon en « U » AISI - 316
	941126 (x2)	Écrou autobloquant AISI - 316
	852600 (x2)	Butee
	940372 (x2)	Vis
	941105 (x2)	Écrou autobloquant
	850446	Platine pour boulon en « U » AISI - 316
526003	Kit butée d'arrêt pour flexible et boulon en « U » (huile usagée)	
	944816	Boulon en « U » AISI - 316
	941126 (x2)	Écrou autobloquant AISI - 316
	850502	Butée
	940385	Vis
	941006	Écrou autobloquant
	942106 (x2)	Rondelle
	850446	Platine pour boulon en « U » AISI - 316
526022	Kit axe et tambour graisse	
	850615	Rondelle
	850613	Tambour d'enrouleur complet
	750429	Axe pour graisse à haute pression
	950510 (x2)	Roulement
	850617	Entretoise roulements
	850614	Capot du ressort
	940522 (x6)	Vis pour fermer le capot du ressort
	850442	Rondelle du ressort
526023	Kit axe et tambour pour fluides	
	850615	Rondelle
	850613	Tambour d'enrouleur complet
	750424	Axe pour fluides à basse et moyenne pression
	950510 (x2)	Roulement
	850617	Entretoise roulements
	850614	Capot du ressort
	940522 (x6)	Vis pour fermer le capot du ressort
	850442	Rondelle du ressort
526024	Kit axe et tambour pour LR-LG et AdBlue	
	850615	Rondelle
	850613	Tambour d'enrouleur complet
	850444	Axe AISI - 316
	950510 (x2)	Roulement
	850617	Entretoise roulements
	850614	Capot du ressort
	940522 (x6)	Vis pour fermer le capot du ressort
	850442	Rondelle du ressort

Réf.	Désignation
850310	Ressort standard (10 m - (33')
850311	Ressort renforcé (15 m - 49' HD)
850313	Ressort grande longueur (15 m - 49')

OPEN HOSE REEL
ENROLLADOR DE MANGUERA ABIERTO

Parts and technical service guide
Guía de servicio técnico y recambio

Part. No. / Cód.:

504 SERIES

Description / Descripcion

EN

Open hose reel for air, water (high or low pressure), oil or grease, depending on model.
Uncoil the hose till the desired length. It can be locked by means of the latch mechanism.
By gently pulling the hose, the latch is released and the hose is automatically recoiled.

WARNING

HIGH PRESSURE DEVICE FOR PROFESSIONAL USE ONLY. KEEP BODY CLEAR OF NOZZLE AND HOSE. SERIOUS INJURY COULD OCCUR. DO NOT EXCEED MAX. W.P. AND TEMPERATURE OF THE LOWEST RATED SYSTEM COMPONENT. DISCONNECT AIR AND RELEASE PRESSURE IN THE SYSTEM BEFORE SERVICING.

ES

Enrollador de manguera abierto, para aire, agua (alta o baja presión), lubricantes o grasa, según modelos.
Tirar de la manguera para el desenrollado de ésta, pudiendo ser bloqueada en la longitud deseada por acción de un trinquete automático.
Para la recogida de la manguera, basta con tirar ligeramente de ella para que sea recogida automáticamente por acción de un resorte.

ATENCIÓN

COMPONENTE A ALTA PRESIÓN. PARA USO PROFESIONAL. NO APUNTE CON LA PISTOLA A NINGUNA PARTE DEL CUERPO. PELIGRO. NO SOBREPASE LA PRESIÓN Y NI LA TEMPERATURA DE TRABAJO DEL COMPONENTE MENOS RESISTENTE. DESCONECTAR EL AIRE Y DESPRESURIZAR EL SISTEMA PARA REALIZAR EL SERVICIO.

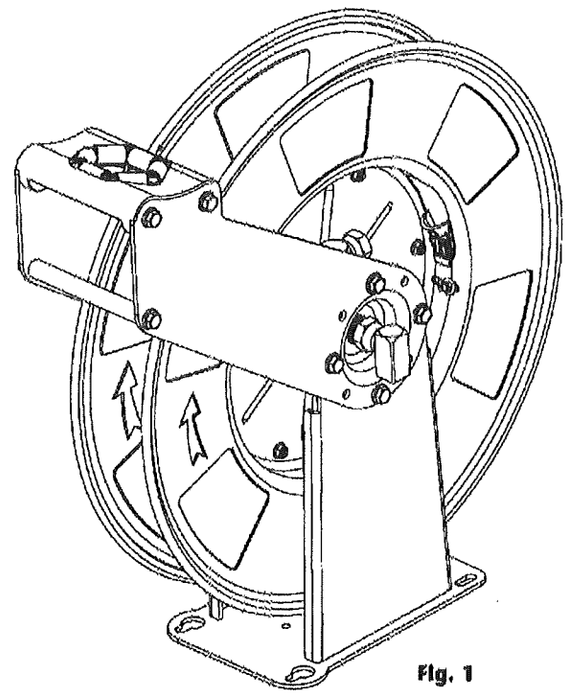

Fig. 1

Installation / Instalacion

EN

Wall or ceiling mounted hose reel, directly or by using a pivoting bracket (Ref. 360 111) or a special bracket for installing several hose reels (ref.: 360 115, 360 117, 360 118).

WARNING

BEFORE MAINTAINING AND/OR REPAIRING YOUR HOSE REEL AND/OR ANY PART OF THE SYSTEM, YOU MUST DISCONNECT THE AIR TO THE PUMP AND OPEN THE DISPENSING VALVE UNTIL PRESSURE IS RELIEVED. THE SPRING IS ALWAYS UNDER GREAT TENSION AN COULD BE PROPELLED FROM THE CASE WITH ENOUGH FORCE TO CAUSE SERIOUS BODILY INJURY. TRY NOT TO OPERATE THE POWER SPRING INSIDE THE HOSE REEL.

ES

El enrollador puede montarse directamente sobre la superficie de fijación, utilizando un soporte pivotante (Ref.: 360 111), o mediante soporte especial para instalar varios enrolladores sobre pared o techo (Ref.: 360 115, 360 117, 360 118).

ATENCIÓN

ANTES DE EMPEZAR CUALQUIER TIPO DE MANTENIMIENTO, CIERRE LA VÁLVULA MÁS CERCANA AL ENROLLADOR Y ABRA LA VÁLVULA DE SALIDA PARA SOLTAR LA PRESIÓN EN LA MANGUERA. EL RESORTE ESTÁ BAJO MUY ALTA TENSIÓN Y PUEDE PRODUCIR GRAVES HERIDAS SI SE SUELTA. POR LO TANTO, NO INTENTE DAR SERVICIO AL RESORTE DENTRO DEL ENROLLADOR.

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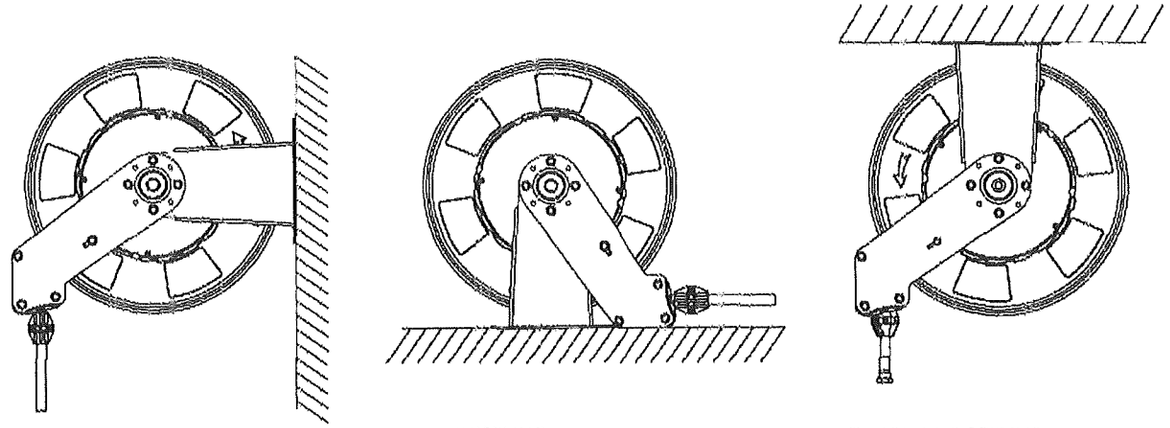
EN

For smooth operation and longer life, position the hose guide arms as per figure 2. This way, the hose is always pulled tangentially to the hose reel.

ES

Para un funcionamiento más cómodo y suave, así como para alargar la vida de la manguera, la posición de los brazos de salida se puede posicionar de acuerdo con la (fig. 2):



PERPENDICULAR REELING
ENROLLADOR POSICIÓN PARED

SIDE REELING
SENROLLADOR POSICIÓN SUELO

TANGENTIAL REELING
ENROLLADOR POSICIÓN TECHO

Fig. 2

To move the hose guide arms and the hose outlet mouth, it is necessary to remove screws (1) (fig. 3). The spool and the hose guide arms will be released from the base. Place the guide arms in desired position and replace screws.

Para posicionar los brazos de salida, es necesario aflojar y retirar los tornillos (1) (fig. 3). En ese momento el tambor junto con los brazos de salida quedan sueltos del bastidor. Coloque los brazos en la posición deseada, y vuelva a fijar de nuevo los tornillos (1).

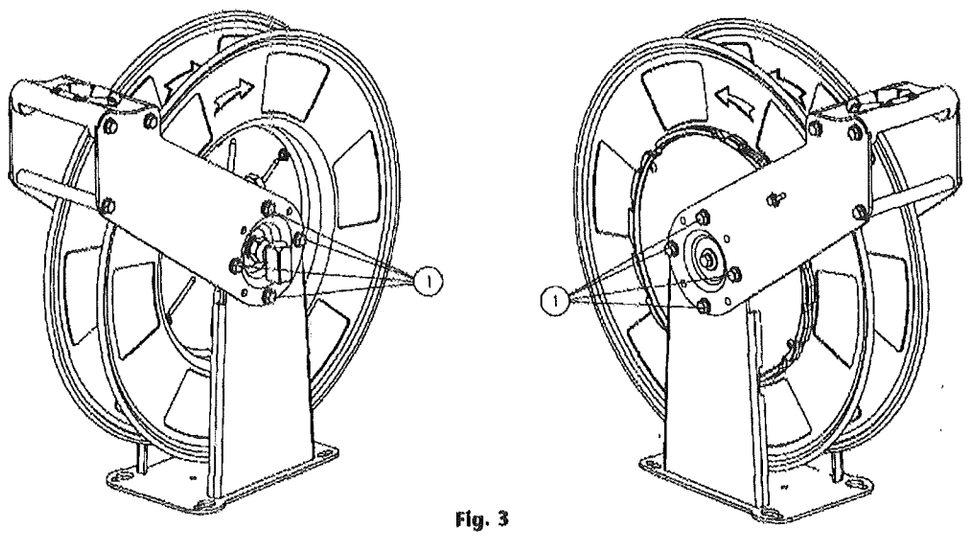


Fig. 3

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EN

1. To install the hose the first time, make sure the power spring is relaxed, with no tension, in such a way that the spool does not try to turn (the ratchet must be unlocked).
2. Connect the new hose to the swivel (2) (fig.4) making sure the hose is placed on the plastic piece, and then hold the hose firmly to the spool using the P-Clip (1). It is not recommended to exert high force on the swivel, for this reason the hose must remain relaxed between the P-clip and the swivel, showing a gradual curve.
3. Start to rewind the hose, turning the spool manually until the hose is completely wound around the spool (the power spring still will be with no tension). Apply the pre-tension to the power spring by turning the spool in positively direction as shown in (fig. 5). Do not apply more pre-tension turns than shown in table 1, the power spring could be damaged.

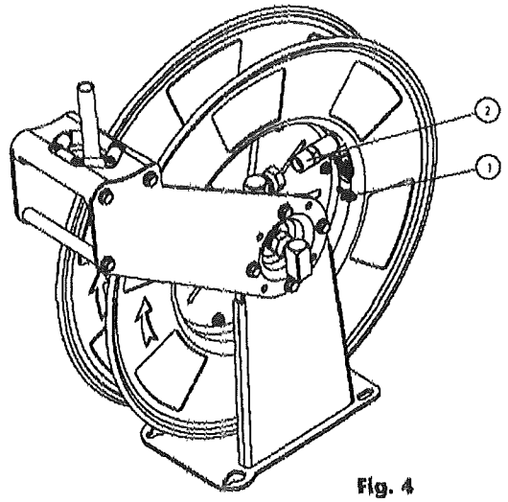

Fig. 4

Table I. Pretensión Turns		
Hose	Hose length	Pretension Turns
Air/Water 1/2"	15 m	7
Oil 1/2"	15 m	5
Hot Water 3/8"	15 m	5
Grease 3/8"	15 m	5
Grease 1/4"	15 m	5

4. Pass the hose end through the roller outlet to the desired length, lock the spool with the ratchet in the nearest position and place the hose stopper. (fig. 6).
5. Fully unwind and rewind the hose to make sure the power spring is correctly tensioned.

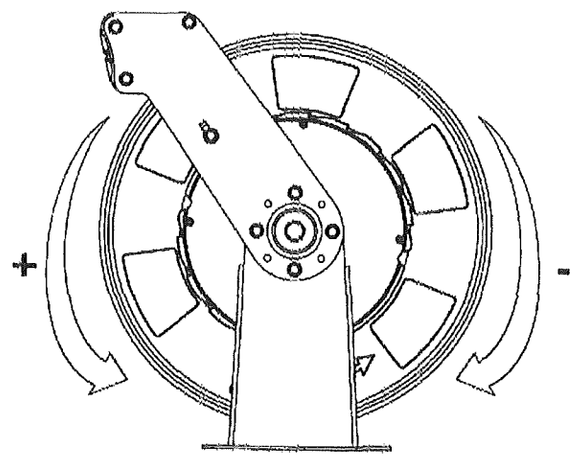

Fig. 5

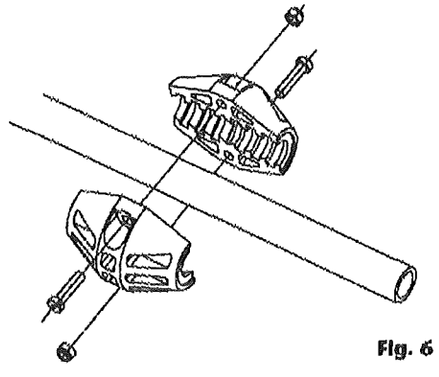

Fig. 6

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Hose installation / Instalación de la manguera

ES

1. Para instalar la manguera por primera vez, asegúrese de que el resorte no tiene tensión dejando el tambor neutro, de modo que no intente girar más (el trinquete debe estar desbloqueado).
2. Conecte la nueva manguera a la rótula (2) (fig.4) asegurándose de que se apoya sobre la pieza plástica, y coloque la brida isofónica (1) de tal modo que sujete la manguera contra el tambor firmemente. No es recomendable ejercer un elevado esfuerzo sobre la rótula, por lo que se recomienda que la manguera, en su zona entre la brida y la rótula, no esté tensionada, presentando una suave curvatura hasta conectar con la rótula.
3. Comience a recoger la manguera girando el tambor manualmente hasta que quede enrollada totalmente (el resorte deberá seguir neutro). Aplique entonces pretensión al resorte en sentido positivo según (fig. 5). No se debe aplicar más pretensión de la indicada la tabla 1, pues el resorte podría resultar dañado.

Tabla I. Vueltas de Pretensión		
Manguera	Longitud manguera	Vueltas de pretensión
Aire/Agua 1/2"	15 m	7
Aceite 1/2"	15 m	5
Agua caliente 3/8"	15 m	5
Grasa 3/8"	15 m	5
Grasa 1/4"	15 m	5

4. Pase el extremo de la manguera a través de la salida para manguera la longitud deseada y deje el tambor trincado en la posición más cercana, finalmente coloque el tope manguera (fig. 6).
5. Desenrolle y enrolle totalmente la manguera para comprobar que el resorte está tensado de forma correcta.

Hose replacement / Sustitución de la manguera

EN

1. Ensure the reel is firmly attached. Take the hose fully out and let the spool blocked by the ratchet mechanism.
   NOTE: Beware the spool to get loose and start turning freely.
2. Remove the P-clip (1) (fig. 4), and disconnect the hose from the swivel (2) (fig. 4).
3. Take away the hose from the spool and remove the hose
4. Connect the new hose to the swivel (2) (fig.4) making sure the hose is placed on the plastic piece, and then hold the hose firmly to the spool using the P-Clip (1). It is not recommended to exert high force on the swivel, for this reason the hose must remain relaxed between the P-clip and the swivel, showing a gradual curve.
5. Allow the hose to slowly wind into the spool and ensure to finish with the whole hose inside the reel and the power spring with no tension (in such a way that the spool does not try to turn).
6. Apply the pre-tension to the power spring as shown in table 1, by turning the spool in positively direction as shown in (fig. 5). Do not apply more pre-tension turns than shown in table 1, the power spring could be damaged.
7. Pass the hose end through the roller outlet to the desired length, lock the spool with the ratchet in the nearest position and place the hose stopper (fig. 6).
8. Fully unwind and rewind the hose to make sure the power spring is correctly tensioned.

ES

1. Asegúrese de que el enrollador de manguera esté firmemente sujeto. Desenrolle totalmente la manguera y deje el tambor fijado por el trinquete.
   NOTA: Tenga cuidado para que el trinquete no se suelte y el enrollador empiece a girar libremente.
2. Retire la brida isofónica (1) (fig. 4), y desconecte la manguera de la rótula (2) (fig. 4).
3. Extraiga la manguera del tambor y desmonte el tope de manguera para usarlo con la manguera nueva.
4. Conecte la nueva manguera a la rótula (2) (fig. 4) asegurándose de que se apoya sobre la pieza plástica, y coloque la brida isofónica (1) de tal modo que sujete la manguera contra el tambor firmemente. No es recomendable ejercer un elevado esfuerzo sobre la rótula, por lo que se recomienda que la manguera, en su zona entre la brida y la rótula, no esté tensionada, presentando una suave curvatura hasta conectar con la rótula.
5. Deje la manguera recogerse lentamente y asegúrese de terminar con toda la longitud enrollada y el resorte sin tensión (dejando el tambor neutro de forma que no intente girar más).
6. Aplique de pretensión según tabla 1, en sentido positivo según (fig. 5). No se debe aplicar más pretensión de la indicada pues el resorte podría resultar dañado.
7. Pase el extremo de la manguera a través de la salida para manguera la longitud deseada y deje el tambor trincado en la posición más cercana, finalmente coloque el tope manguera (fig. 6).
8. Desenrolle y enrolle totalmente la manguera para comprobar que el resorte está tensado de forma correcta.

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Spring load adjustment / Ajuste de la tension del resorte

EN

If you wish to increase or decrease the power spring tension:

1. Pull the hose out till the first ratchet locking position.
2. Remove the hose stopper and pull the hose out in order to unlock the ratchet.
3. Allow the hose to fully wind into the spool, applying some counter-force in order to avoid the spool to turn freely.
   NOTE: Beware the spool may get loose an start turning freely.
4. Turn the spool to increase or decrease the power spring (fig. 5).
   NOTE: Do not apply more pre-tension turns than shown in table 1, the power spring could be damaged.
5. Pass again the hose end through the roller outlet and place the hose stopper in the desired position.
6. Make sure that the hose fully winds and unwinds properly. If it does not, repeat the previous steps until it does.

ES

Si desea aumentar o disminuir la tensión del resorte, proceda de la siguiente forma:

1. Desenrolle la manguera hasta llegar a la primera posición de bloqueo del trinquete.
2. Quite el tope de manguera y tire de la manguera para liberar el trinquete.
3. Permita que la manguera se enrolle totalmente en el tambor, reteniéndola lo suficiente para que éste no gire libremente.
   NOTA: Tenga cuidado para que el tambor no empiece a girar libremente.
4. Haga girar el tambor para incrementar o disminuir la tensión según (fig. 5).
   NOTA: No exceda la pretensión indecada en la tabla 1. En caso contrario el resorte podría resultar dañado.
5. Vuelva a pasar el extremo de la manguera a través de la salida para manguera y bloquee el tambor en la posición más próxima del trinquete. Finalmente coloque el tope de manguera en la posición deseada.
6. Asegúrese de que la manguera se enrolla y desenrolla correctamente. Si no, repita el procedimiento hasta que lo haga.

Latch replacement / Sustitucion del trinquete

EN

1. With the hose fully wound on the spool and the hose stopper touching the rollers, remove the screws (1) (fig. 7) holding the nut (2) (fig. 7). Then remove the ratchet assembly.
2. Clean the parts or replace them if necessary.
3. Assemble the ratchet assembly again in reverse order.
4. Make sure the ratchet assembly works properly.

ES

1. Con la manguera enrollada y el tope manguera apoyado en los rodillos de salida, desenroscar el tornillo (1) (fig. 7), haciendo contratuerca en (2), y retirar el conjunto trinquete.
2. Limpie los componentes del trinquete o sustitúyalos si es necesario.
3. Vuelva a montar el trinquete en orden contrario.
4. Asegúrese de que el trinquete funciona correctamente.

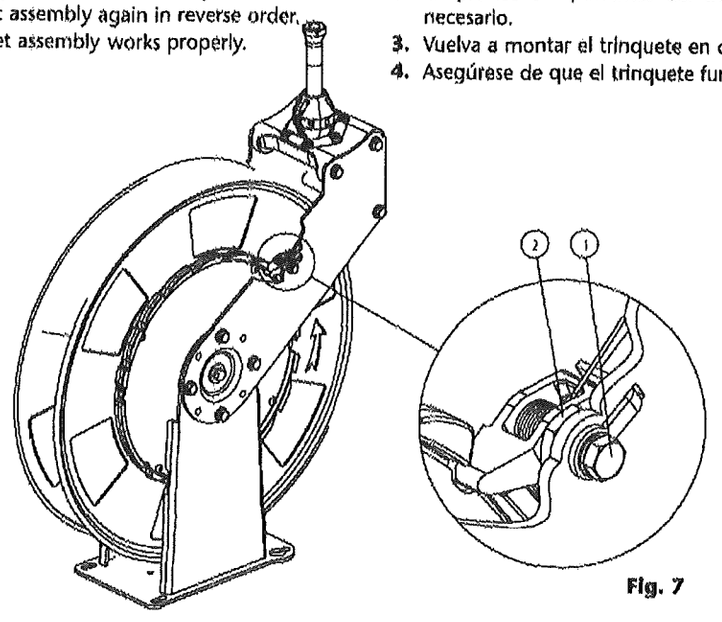

Fig. 7

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EN

WARNING

BEFORE MAINTAINING AND/OR REPAIRING YOUR HOSE REEL AND/OR ANY PART OF SYSTEM, YOU MUST DISCONNECT THE AIR TO THE PUMP AND OPEN DISPENSING VALVE UNTIL PRESSURE IS RELIEVED.

1. Disconnect the hose from the swivel (6) (fig. 8).
2. Disconnect the inlet hose loosening the inlet fitting (1) (fig. 8), and move away the circlip (2) (fig. 8).
   NOTE: For air/water hose reels, the hose disconnection from the swivel should be done loosening the worm drive clip, and extracting the hose from the swivel barb fitting.
3. Loosen the bolts (3) (fig. 8), to be able to remove the upper arm (4).
4. Pull out the swivel assembly (5) (fig. 8) and replace the seals (6) (fig. 9).
5. Grease the interior of the swivel and place it carefully back on the shaft until it touches the bearing on the spool.
6. Place back the upper arm and the rest of parts in reverse order.

ES

ATENCIÓN

ANTES DE EMPEZAR CUALQUIER TIPO DE MANTENIMIENTO, CIERRE LA VÁLVULA MÁS CERCANA AL ENROLLADOR Y ABRA LA VÁLVULA DE SALIDA PARA SOLTAR LA PRESIÓN EN LA MANGUERA.

1. Desconecte la manguera de la rótula (6) (fig. 8).
2. Desconecte la manguera de acometida aflojando el racor de acometida (1) (fig. 8), y retire el circlip de seguirdad (2) (fig. 8).
3. Desenrosque los tornillos (3) (fig. 8), lo que permitirá desmontar el brazo superior del enrollador (4).
4. Saque el conjunto rótula (5) (fig. 8) y sustituya las juntas (6) (fig. 9).
5. Engrase el interior de la rótula e insértela cuidadosamente de nuevo sobre el eje hasta que haga tope.
6. Vuelva a montar el brazo superior y el resto de componentes en orden inverso.

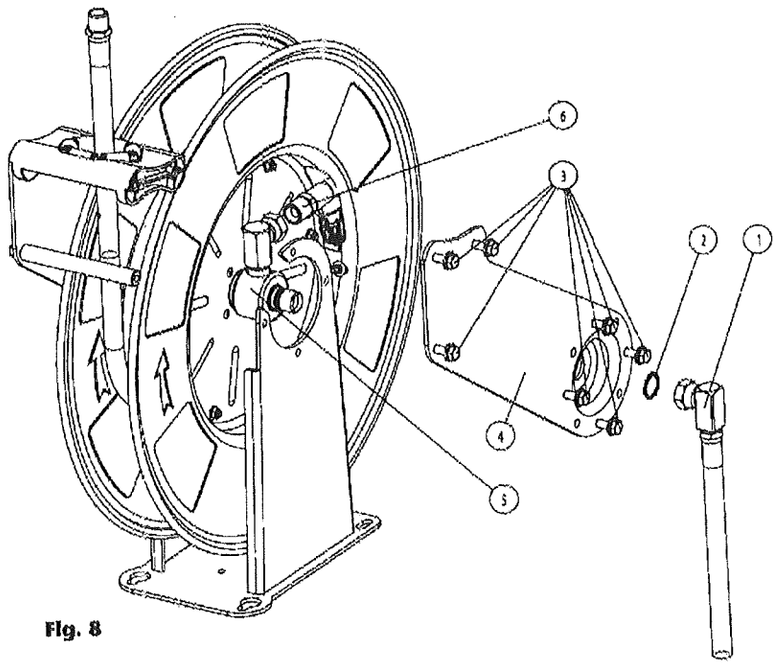

Fig. 8

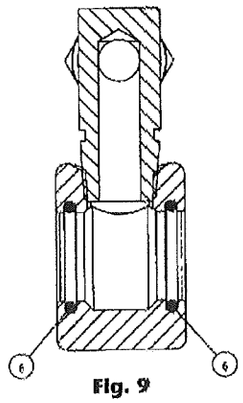

Fig. 9

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EN

1. Ensure to disconnect the air to the pump and open dispensing valve until pressure is relieved.
2. Disconnect the inlet hose. Remove the reel to work bench and clamp it securely.
3. Take the hose fully out and let the spool blocked by the ratchet mechanism. Remove the P-Clip (1) (fig.4), and disconnect the hose from the swivel (2) (fig.4).
   NOTE: Beware the spool may get loose an start turning freely.
4. Wearing heavy leather gloves, firmly grab the outside edge of the spool with both hands. Unlatch the spool and let it rotate slowly through your hands until the spool stops. When the spool stops, the spring tension will be released.
5. Remove the upper arm (4) (fig. 8) removing away the circlip (2)(Fig.8) and loosening the bolts (3) (fig. 8).
6. Remove the upper arm (9) (fig.10) loosening the bolt (7) (fig.10). The spool will be disconnected from the frame. Next, loosen the bolts (8) (fig.10) and remove the upper arm.

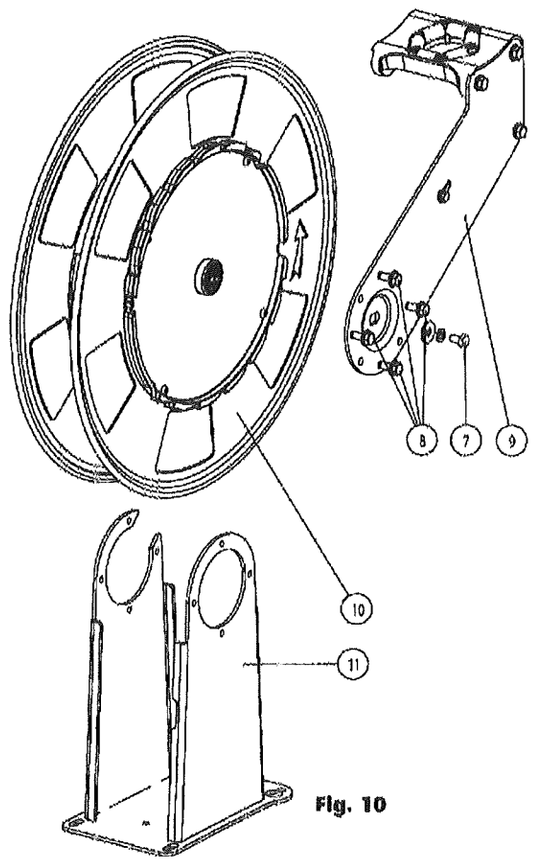

Fig. 10

ES

1. Asegúrese de cerrar la válvula más cercana al enrollador y abra la válvula de salida para soltar la presión en la manguera.
2. Desconecte la manguera de acometida. Fije firmemente el enrollador en la mesa de trabajo.
3. Extraiga la manguera totalmente y asegúrese de que el tambor quede trincado. Retire la brida isofónica (1) (fig. 4), y desconecte la manguera de la rótula (2) (fig. 4).
   NOTA: Tenga cuidado para que el tambor no emplece a girar libremente.
4. Usando guantes gruesos de protección, sujete el tambor firmemente de forma manual, libere el tambor del trinquete y con cuidado permita girar al tambor lentamente entre sus manos hasta que deje de moverse. Cuando el tambor deje de girar significa que el resorte ya no está en tensión.
5. Desmonte el brazo (4) (fig. 8), para ello retire el circlip de seguirdad (2) (fig. 8) y Desenrosque los tornillos (3) (fig. 8).
6. Desmonte el brazo (9) (fig. 10). Para ello, primero afloje el tornillo (7) (fig. 10) que liberará el eje del bastidor dejando el tambor suelto. Después, afloje los tornillos (8) (fig. 10) y retire el brazo.

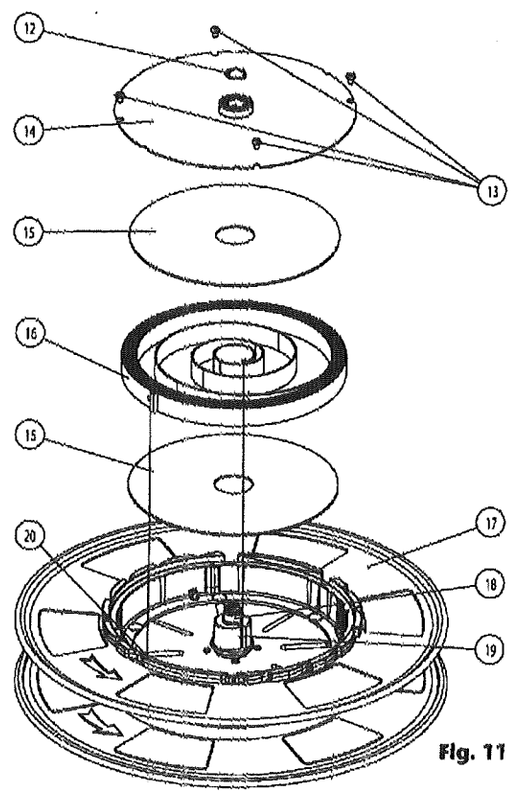

Fig. 11

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EN

7. With the spool lying flat, remove the circlip (12) (fig. 11) from the shaft. Next, loosen the bolts (13). Carefully lift up the power spring cover (14) which will come out with the bearing, all together. Take apart the silencer disc (15), and finally disassemble the power spring (16). Be careful to avoid remove the spring fixation (19) which could be slightly held to the power spring.

WARNING

EXTREME CAUTION WHEN HANDLING THE POWER SPRING. THE SPRING IS ALWAYS UNDER GREAT TENSION AND COULD BE PROPELLED FROM THE CASE WITH ENOUGH FORCE TO CAUSE SERIOUS BODILY INJURY.

BE SURE THE SPOOL IS LYING FLAT, AND THEN CAREFULLY LIFT UP THE COVER TO EXPOSE THE POWER SPRING.

8. Protect your hands with heavy Leather Gloves. Before removing the power spring, assure it with clamps, helping yourself with locking type pliers to compress and hold several rows of the power spring together (fig. 12). Then remove carefully the power spring.
9. Apply a light coat of grease inside the spring case and cover. Carefully install the new power spring . Be sure, the power spring hooks are aligned with the spool (20) (fig. 11) and spring fixation (19) (fig. 14) hooks.
10. Once the power spring is in the case, assemble the silencer disc (15) (fig. 11) and the lid (14) (fig. 11).
11. Be sure the cover is aligned with the adjacent piece (the slots must be aligned). Then, fasten the lid with the bolts (13) (fig. 11).
12. After placing the lid, assemble the circlip (12) (fig. 11) and then, place the spool assembly on the hose reel frame.
13. Place back the remaining parts in reverse order.
14. Once the hose reel is assembled, it is necessary to make the spring load adjustment and the hose installation. To do this, follow the steps shown in section "Hose installation".

ES

7. Con el tambor apoyado en una superficie plana, retire el Circlip (12) (fig. 11) que fija el eje. Seguidamente, afloje los tornillos (13). Extraiga con cuidado la tapa (14) que saldrá junto con el rodamiento. Retire el disco silenciador (15) y seguidamente el resorte (16), tenga cuidado de no extraer la fijación resorte (19) que estará ligeramente sujeta al centro del resorte.

ATENCIÓN

EXTREME LA PRECAUCIÓN, EL RESORTE ESTÁ SOMETIDO A MUCHA TENSIÓN Y PUEDE PRODUCIR GRAVES HERIDAS SI SE SUELTA DE FORMA INADECUADA.

ASEGÚRESE DE QUE EL TAMBOR ESTÁ APOYADO SOBRE UNA SUPERFICIE PLANA, Y EXTRAIGA LA TAPA CON CUIDADO.

8. Proteja sus manos con guantes gruesos. Antes de retirar el resorte, asegúrelo con bridas para mantener las espiras del resorte juntas y sujetas entre ellas (fig. 12), puede ayudarse de unos alicates. Entonces extraiga el resorte suavemente.
9. Aplique una ligera capa de grasa en el habitáculo para el resorte, y proceda a instalar el nuevo resorte tomando las mismas precauciones. Asegúrese de que los ganchos del resorte coinciden correctamente con los ganchos del tambor (20) (fig. 11) y de la fijación resorte (19) (fig. 11).
10. Una vez el resorte esté en el habitáculo, cubrirlo con el disco silenciador (15) (fig. 11) y con la tapa (14) (fig. 11).
11. Una vez colocada la tapa, girarla hasta que esté bien alineada con la pieza perimetral sobre la que encaja (las ranuras han de coincidir). Tras esto, apretar los tornillos (13) (fig. 11).
12. Tras montar la tapa, monte el circlip (12) (fig. 11) y lleve el conjunto tambor, al bastidor.
13. Monte el resto de los componentes en orden inverso.
14. Una vez el enrollador está ensamblado, es necesario ajustar la tensión del resorte e instalar la manguera. Para ello, proceda siguiendo los pasos indicados en el apartado "Instalación de la manguera".

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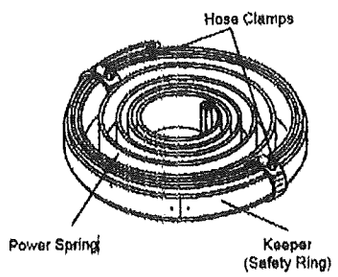

Fig. 12

Power spring replacement / Sustitucion del resorte

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Symptom	Possible Causes	Solution
Hose does not rewind	Spring is not tensioned enough	Increase spring tension
Leaking hose reel	Hose has a hole or is damaged	Replace the hose
Leaking swivel	Damaged swivel rings	Replace the swivel rings
Hose does not extend out as much as required	Spring is over tensioned	Decrease spring tension
Hose reel does not latch	Damaged ratchet	Replace the ratchet
	Ratchet not fitted	Assembly the ratchet properly
	Damaged spring ratchet	Change the ratchet spring

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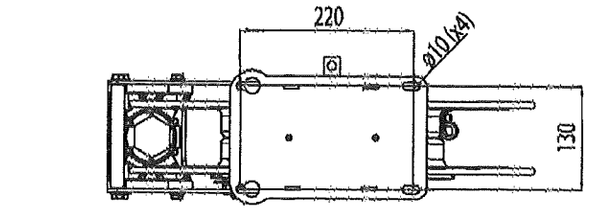
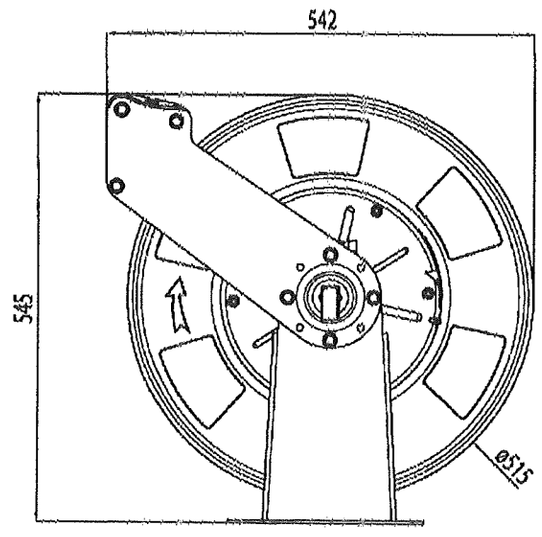
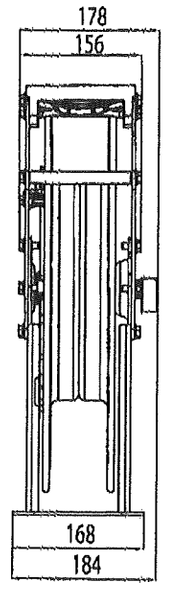
Síntoma	Posibles causas	Solución
El enrollador no recoge	El muelle ha perdido tensión o se ha roto	Dar tensión al resorte o reemplazarlo
La manguera pierde fluido	Manguera con poro o rota	Cambiar la manguera
La rótula pierde fluido	Rótula deteriorada	Cambiar la rótula
La manguera no sale todo lo que debería	Demasiada tensión en el resorte	Quitar tensión al resorte
El enrollador no trinca	Trinquete deteriorado	Cambiar el trinquete
	Trinquete fuera de su lugar	Colocar el trinquete adecuadamente
	Muelle trinquete deteriorado	Sustituir el muelle del trinquete

Dimensions / Dimensiones







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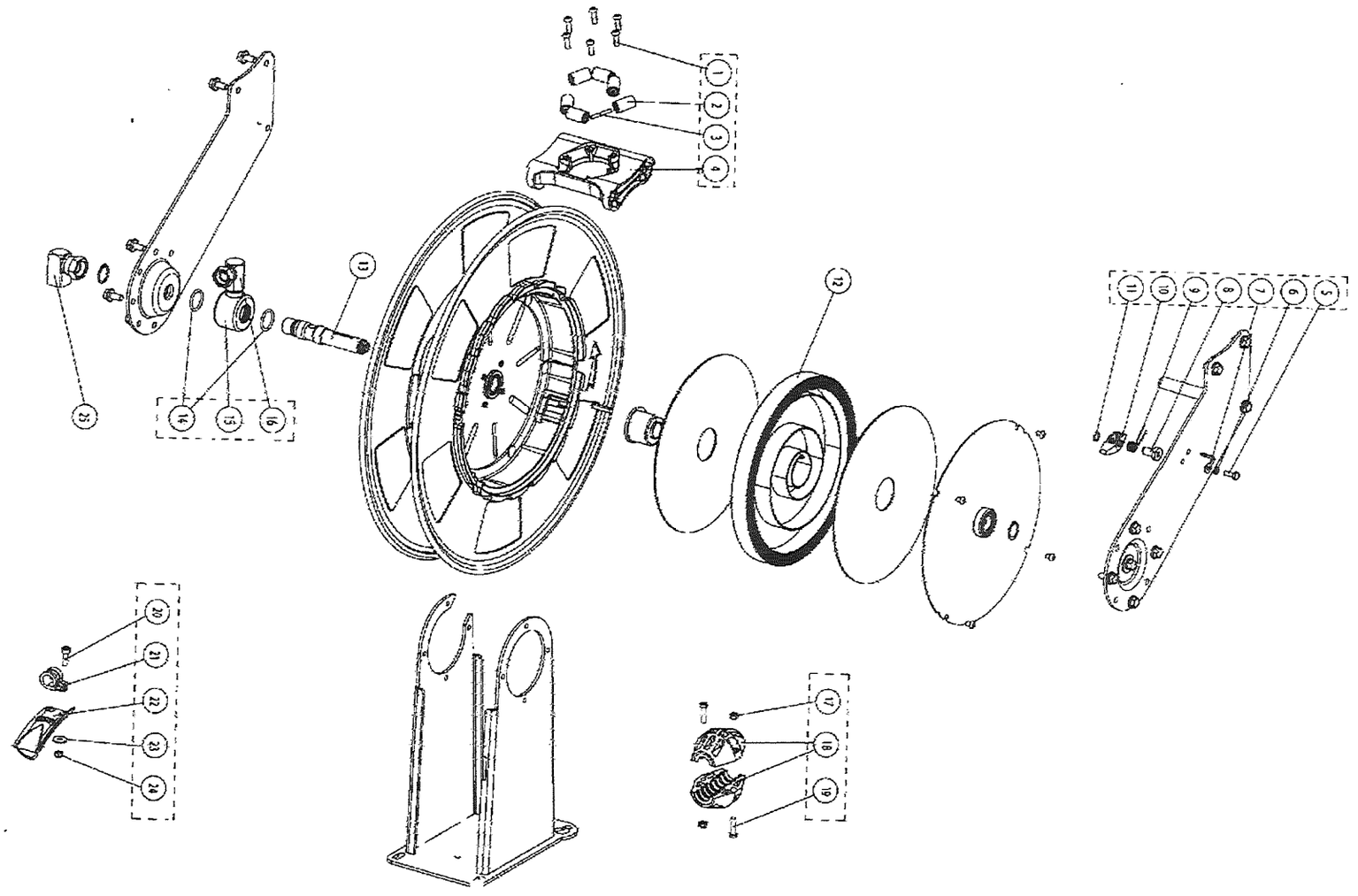

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COMMON TO ALL MODELS / COMUNES A TODOS LOS MODELOS				
ROLLER OUTLET / KIT SALIDA MANGUERA				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
1	Roller outlet bolt	Tornillo salida manguera	6	**524030**
2	Roller	Rodillo	6	
3	Roller rod	Eje rodillo	6	
4	Roller outlet	Salida manguera	1	
RATCHET ASSEMBLY / KIT CONJUNTO TRINQUETE				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
5	Ratchet bolt	Tornillo trinquete	1	**524020**
6	Ratchet washer	Arandela trinquete	1	
7	Ratchet spring stopper	Tope trinquete	1	
8	Ratchet shaft	Eje trinquete	1	
9	Spring	Muelle	1	
10	Ratchet	Trinquete	1	
11	Circlip	Circlip	1	

KITS BY MODELS / KITS POR MODELOS				
AIR-WATER HOSE REELS / ENROLLADORES DE AIRE-AGUA				
SWIVEL ASSEMBLY / KIT CONJUNTO RÓTULA				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
14	NBR O-rings	Juntas tóricas de NBR	2	**524011.300**
15	1/2" Swivel for low pressure	Rótula 1/2" baja presión	1	
16	Elbow 90° 1/2" NPSM (F)	Codo 90° 1/2" NPSM (H)	1	
O-RINGS FOR SWIVEL / KIT JUNTAS DE RÓTULA				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
14	NBR O-rings	Juntas tóricas de NBR	2	**524031**
AIR-WATER 1/2" SHAFT / EJE 1/2" PARA AIRE-AGUA				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
13	1/2" NPSM (M) shaft for air-water	Eje 1/2" NPSM (M) aire-agua	1	**895437.300**
HOSE STOPPER KIT+ P-CLIP FOR Ø 17-19 HOSE / KIT TOPE MANGUERA + ISOFÓNICA PARA MANGUERA Ø 17-19				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
17	Locking nut	Tuerca de seguridad	2	**524036**
18	Hose stopper Ø 17-19 mm (A)	Bicono Ø 17-19 mm (A)	2	
19	Hose stopper bolt	Tornillo tope manguera	2	
20	P-Clip bolt	Tornillo para brida isofónica	1	
21	16mm P-Clip	Brida isofónica de 16mm	1	
22	Plastic hose support	Soporte manguera plástico	1	
23	Washer	Arandela	1	
24	Locking nut	Tuerca de seguridad	1	

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HOSE STOPPER KIT+ P-CLIP FOR Ø 21 HOSE / KIT TOPE MANGUERA + ISOFÓNICA PARA MANGUERA Ø 21				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
17	Tuerca de seguridad	Locking nut	2	**524035**
18	Bicono Ø21mm (O)	Hose stopper Ø21 mm (O)	2	
19	Tornillo tope manguera	Hose stopper bolt	2	
20	Tornillo para brida isofónica	P-Clip bolt	1	
21	Brida isofónica de 19 mm	19mm P-Clip	1	
22	Soporte manguera plástico	Plastic hose support	1	
23	Arandela	Washer	1	
24	Tuerca de seguridad	Locking nut	1	
INLET ELBOW / CODO DE ACOMETIDA				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
25	Elbow 90° 1/2" NPT (F)	Codo 90° 1/2" NPT (H)	1	**945752**
RESORTE/POWER SPRING				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
12	Power Spring for 50' hose Only for air/water version	Resorte para manguera de 15 m Solo para versiones aire/agua	1	**850321**

KITS BY MODELS / KITS POR MODELOS				
OIL HOSE REELS / ENROLLADORES DE ACEITE				
SWIVEL ASSEMBLY / KIT CONJUNTO RÓTULA				
Pos.	**Description**	**Descripción**	**Qty./Cant.**	**kit**
14	NBR O-rings	Juntas tóricas de NBR	2	**524012.30**
15	1/2" Swivel for oil	Rótula 1/2" para aceite	1	
16	Elbow 90° 1/2" NPSM (F)	Codo 90° 1/2" NPSM (H)	1	
O-RINGS FOR SWIVEL / KIT JUNTAS DE RÓTULA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
14	NBR O-rings	Juntas tóricas de NBR	2	**524031**
OIL 1/2" SHAFT / EJE 1/2" PARA ACEITE				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
13	1/2" NPSM (M) shaft for oil	Eje 1/2" NPSM (M) para aceite	1	**750531.30**
HOSE STOPPER KIT+ P-CLIP FOR Ø 17-19 HOSE / KIT TOPE MANGUERA + ISOFÓNICA PARA MANGUERA Ø 17-19				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
17	Locking nut	Tuerca de seguridad	2	**524036**
18	Hose stopper Ø 17-19 mm (A)	Bicono Ø 17-19 mm (A)	2	
19	Hose stopper bolt	Tornillo tope manguera	2	
20	P-Clip bolt	Tornillo para brida isofónica	1	
21	16mm P-Clip	Brida isofónica de 16mm	1	
22	Plastic hose support	Soporte manguera plástico	1	
23	Washer	Arandela	1	
24	Locking nut	Tuerca de seguridad	1	
INLET ELBOW / CODO DE ACOMETIDA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
25	Elbow 90° 1/2" NPT (F)	Codo 90° 1/2" NPT (H)	1	**945752**
POWER SPRING / RESORTE				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
12	Power Spring for 50' hose Except for air/water version	Resorte para manguera de 15 m Excepto para versiones aire/agua	1	**850303**

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KITS BY MODELS / KITS POR MODELOS				
HOT HIGH PRESSURE WATER HOSE REELS / ENROLLADORES DE AGUA CALIENTE A PRESIÓN				
SWIVEL ASSEMBLY / KIT CONJUNTO RÓTULA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
14	Seals for hot water	Juntas para agua caliente	2	**524013.300**
15	1/2" Stainless steel swivel	Rotula 1/2" Inoxidable	1	
16	Elbow 90° 1/2" NPSM (F)	Codo 90° 1/2" NPSM (H) cincado	1	
SEALS FOR SWIVEL / KIT JUNTAS DE RÓTULA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
14	Seals for hot water	Juntas para agua caliente	2	**524032**
1/2" STAINLESS STEEL SHAFT / EJE 1/2" INOXIDABLE				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
13	1/2" NPSM (M) stainless steel shaft	Eje 1/2" NPSM (M) Inoxidable	1	**750535.300**
16 mm P-CLIP KIT / KIT ISOFÓNICA 16 mm				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
17	Locking nut	Tuerca de seguridad	2	**524036**
18	Hose stopper Ø17-19mm (A)	Bicono Ø17-19mm (A)	2	
19	Hose stopper bolt	Tornillo tope manguera	2	
20	P-Clip bolt	Tornillo para brida isofonica	1	
21	16mm P-Clip	Brida isofónica de 16mm	1	
22	Plastic hose support	Soporte manguera plástico	1	
23	Washer	Arandela	1	
24	Locking nut	Tuerca de seguridad	1	
INLET ELBOW / CODO DE ACOMETIDA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
25	Elbow 90° 1/2" NPT (F)	Codo 90° 1/2" NPT (H)	1	**945752**
POWER SPRING / RESORTE				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
12	Resorte para manguera de 15m. Excepto para versiones aire/agua.	Power Spring for 50' hose. Except for air/water version	1	**850303**

KITS BY MODELS / KITS POR MODELOS				
HIGH PRESSURE GREASE HOSE REELS / ENROLLADORES DE GRASA ALTA PRESIÓN				
SWIVEL ASSEMBLY / KIT CONJUNTO RÓTULA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
14	Seals for grease	Juntas para grasa	2	**524014.300**
15	3/8" Swivel for grease	Rotula 3/8" para grasa	1	
16	Elbow 90° 3/8" NPSM (F)	Codo 90° 3/8" NPSM (H)	1	
SEALS FOR SWIVEL / KIT JUNTAS DE RÓTULA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
14	Seals for grease	Juntas para grasa	2	**524032**
3/8" SHAFT FOR GREASE / EJE 3/8" PARA GRASA				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
13	3/8" NPSM (M) for grease	Eje 3/8" NPSM (M) para grasa	1	**750533.300**

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HOSE STOPPER KIT+ P-CLIP FOR Ø17-19 HOSE / KIT TOPE MANGUERA + ISOFÓNICA PARA MANGUERA Ø17-19				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
17	Locking nut	Tuerca de seguridad	2	**524036**
18	Hose stopper Ø17-19mm (A)	Bicono Ø17-19mm (A)	2	
19	Hose stopper bolt	Tornillo tope manguera	2	
20	P-Clip bolt	Tornillo para brida isofónica	1	
21	16mm P-Clip	Brida isofónica de 16mm	1	
22	Plastic hose support	Soporte manguera plástico	1	
23	Washer	Arandela	1	
24	Locking nut	Tuerca de seguridad	1	
HOSE STOPPER KIT+ P-CLIP FOR Ø15-16 HOSE / KIT TOPE MANGUERA + ISOFÓNICA PARA MANGUERA Ø15-16				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
17	Locking nut	Tuerca de seguridad	2	**524033**
18	Hose stopper Ø15-15,7mm (G)	Bicono Ø15-15,7mm (G)	2	
19	Hose stopper bolt	Tornillo tope manguera	2	
20	P-Clip bolt	Tornillo para brida isofónica	1	
21	12mm P-Clip	Brida isofónica de 12mm	1	
22	Plastic hose support	Soporte manguera plástico	1	
23	Washer	Arandela	1	
24	Locking nut	Tuerca de seguridad	1	
CODO DE ACOMETIDA / INLET ELBOW				
Pos.	**Description**	**Descripción**	**Cant./Qty.**	**kit**
25	Elbow 90° 3/8" NPT (F)	Codo 90° 3/8" NPT (H)	1	**945754**
POWER SPRING / RESORTE				
12	Power Spring for 50´ hose. Except for air/water version.	Resorte para manguera de 15 m. Excepto para versiones aire/agua.	1	**850303**

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EC conformity declaration · Declaración CE de conformidad
Déclaration CE de conformité · EG Konformitätserklärung

EN

SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 - Gijón - Spain, declares that this product conforms with the EU Directive:
2006/42/EC

ES

SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 - Gijón - España, declara que este producto cumple con la Directiva de la Unión Europea:
2006/42/CE

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SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 - Gijón - Espagne, déclare que ce produit est conforme à la Directive de l'Union Européenne:
2006/42/CE

DE

SAMOA INDUSTRIAL, S.A., Pol. Ind. Porceyo, I-14 · Camino del Fontán, 831 · 33392 - Gijón - Spanien, bestätigt hiermit, dass dieses Produkt der EG-Richtlinie(n):
2006/42/EG
entspricht.

For SAMOA INDUSTRIAL, S.A.
Por SAMOA INDUSTRIAL, S.A.
Pour SAMOA INDUSTRIAL, S.A.
Für SAMOA INDUSTRIAL, S.A.

Pedro E. Prallong Álvarez

Production Director
Director de Producción
Directeur de Production
Produktionsleiter

2016_03 11:12:00