

Instruction Manual

COSMOSTAR - Handle With Care
Fluid Handling Equipment Manufacturer



COSMOSTAR A1300 30:1 Airless Sprayer

M006 Compact Air Motor

L1300CS Lower



INSTRUCTIONS

This manual contains important warnings and information.
READ AND KEEP FOR REFERENCE.



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WARNINGS

The following are general warnings related to the setup, use, grounding, maintenance and repair of this equipment. Additional, more specific warnings may be found throughout the body of this manual where applicable. Symbols appearing in the body of the manual refer to these general warnings. When these symbols appear throughout the manual, refer back to these pages for a description of the specific hazard.

WARNING



EQUIPMENT MISUSE HAZARD

- Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.
- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose.
- Do not alter or modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluid sand solvents which are compatible with the equipment wetted parts.
- Do not use hose stop all equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not expose hose to temperatures above 82C(180F) or below -4C(-40F).
- Do not lift pressurized equipment.
- Wear hearing protection when operating this equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



SKIN INJECTION HAZARD

- Hazard out fluid or toxic fumes can cause serious injury or death if splashed in the eyes, on the skin, inhaled, or swallowed.
- Know the specific hazards of the fluid you are using.
- Store hazard out fluid in an approved container. Dispose of hazard out fluid according to all local, state and national guide lines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.
- Pipe and dispose of the exhaust air safely, away from people, animals, and food handling areas. If the diaphragm fails, the fluid is exhausted along with the air.



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WARNING



FIRE AND EXPLOSION HAZARD

- Improper grounding, poor ventilation, open flames or spark can cause a hazardous condition and result in a fire or explosion and serious injury.
- Ground the equipment.
- Consult your fluid supplier to determine the conductivity or resistivity of your fluid.
- If there is any static sparking or you feel an electric shock while using this equipment, stop pumping immediately. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the build up of flammable fumes from solvents or the fluid being sprayed, dispensed, or transferred.
- Pipe and dispose of the exhaust air safely, away from all sources of ignition. If the diaphragm fails, the fluid is exhausted along with the air.
- Keep the work area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the work area.
- Extinguish all open flames or pilot lights in the work area.
- Do not smoke in the work area.
- Do not turn on or off any lights within the work area while operating or if fumes are present.
- Do not operate a gasoline engine in the work area.

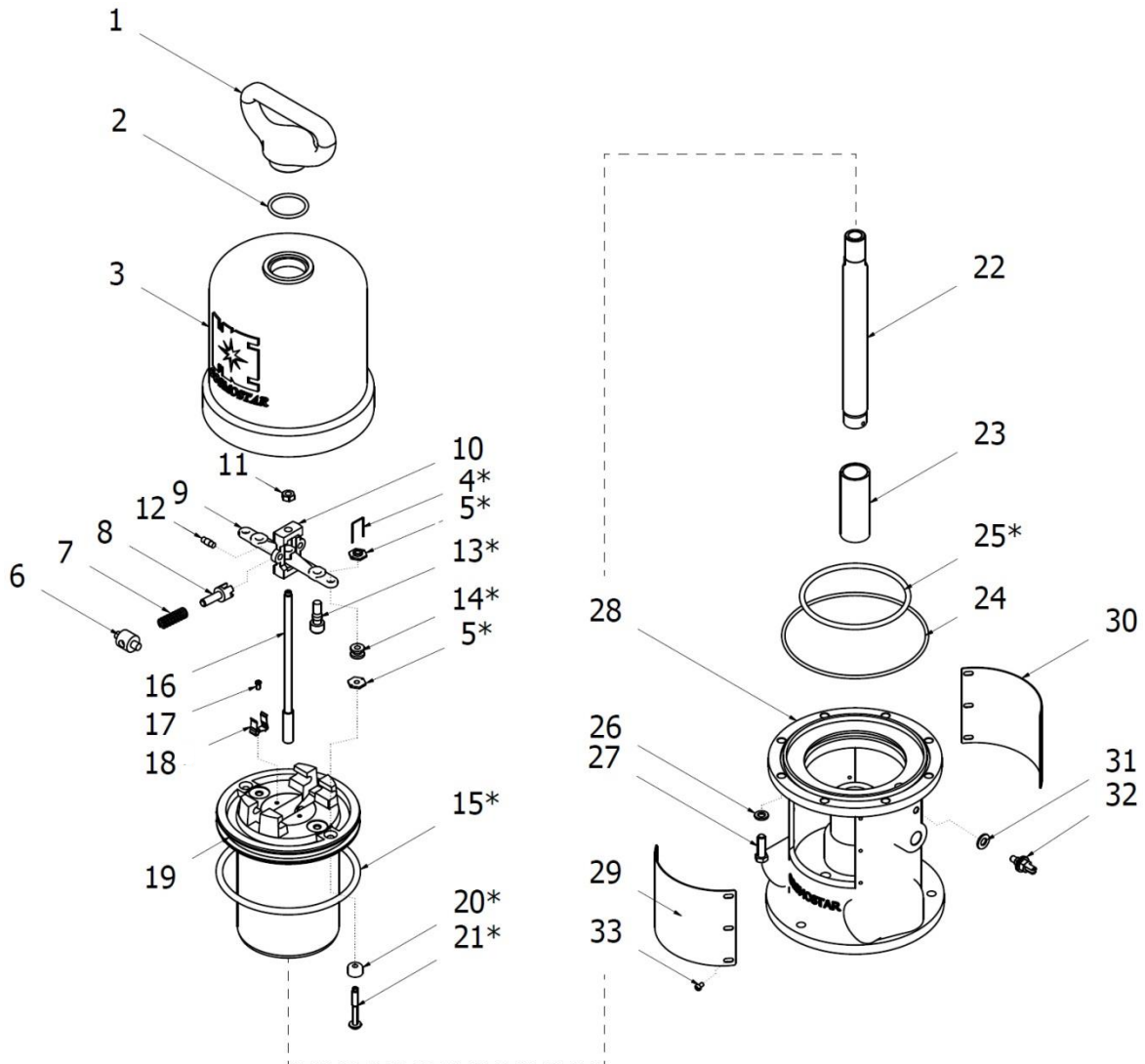
02



INSTRUCTIONS

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M006 Compact Air Motor Parts Drawing



■ The items marked with stars (*) have limited life time. Please run a regular checking in order to maintain high performance.

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M006 Compact **Air Motor** Parts List

Item	Part No.	Description	Qty
01	M00601	Nut, cylinder cap	1
02	M00602	O-Ring, rubber	1
03	M00603	Cylinder, air motor	1
*04	M00604	Lockwire	2
*05	M00605	Nut, adjusting	4
06	M00606	Rocker, toggle	2
07	M00607	Spring	2
08	M00608	Arm, toggle	2
*09	M00609	Actuator, valve	1
10	M00610	Yoke, rod, tip	1
11	N005CZ	Nut, 5/16" X 18TPI	1
12	M00612	Pin, toggle	2
*13	M00613	Poppet, valve	2
*14	M00614	Grommet, rubber	2
*15	M00615	O-Ring, rubber	1
16	M00616	Trip rod	1
17	SC02.504CZ	Screw, 5/32x 1/4	2
18	M00618	Clip, spring	2
19	M00619	Bare piston	1
*20	M00620	Poppet, valve	2
*21	M00621	Stem, valve	2
22	M00622	Rod, piston	1
23	M00623	Bearing	1
*24	M00624	Seal, flat O-Ring	1
*25	M00625	Seal, O-Ring	1
26	M00626	Spring Washer 5/16"	8
27	M00627	5/16"x1 1/4" Screw	8
28	M00628	Base, air motor	1
29	M00629	Plate, ID	1
30	M00630	Plate, warning	1
31	M00631	Washer	1
32	M00632	Lug, grounding	1
33	SC02.504CB	Screw , 5/32" x 1/4" Black	12

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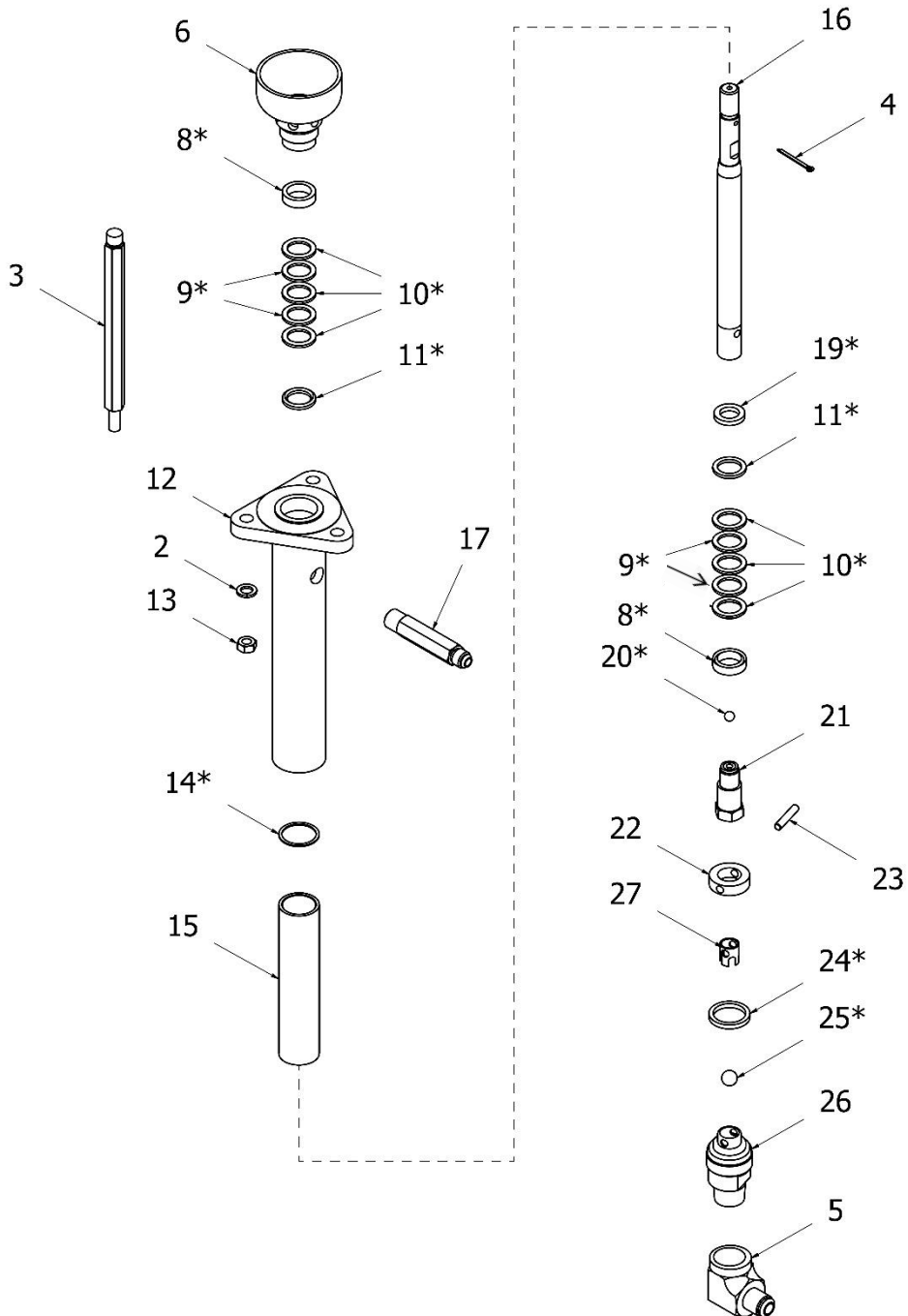
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L1300CS Lower Parts Drawing



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L1300CS Lower Parts List

Item	Part No.	Description	Qty
02	130002	Washer	3
03	C130003	Rod, tie	3
04	C130004	Pin, cotter	1
05	130005	L-Connector	1
06	C130006	Nut, packing	1
*08	130008C	Gland, female CS	2
*09	130009	V-Packing, Leather	4
*10	130010	V-Packing, Teflon	6
*11	130011C	Gland, male, CS	2
12	C130012	Housing, pump	1
13	130013	Nut	3
*14	130014	Gasket	1
15	C130015	Sleeve	1
16	C130016	Rod, displacement	1
17	130017	Long connector	1
*19	130019	Retainer, SUS	1
*20	BS0005	5/16" Ball, SUS	1
21	130021C	Stud, piston	1
22	130022C	Retainer, CS	1
23	130023	Pin, ball stop	1
*24	130024	O-Ring, Teflon	1
*25	BS0008	1/2" Ball, SUS	1
26	130026C	Intake, valve	1
27	130027	Guide, ball	1

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SETUP

Supplied Components

The red-handled bleed-type master air valve is required in your system to relieve air trapped between it and the air motor when the valve is closed. Be sure the bleed valve is easily accessible from the pump, and is located downstream from the air regulator.

The air regulator controls pump speed and outlet pressure by adjusting the air pressure to the pump. Locate close to the pump, but upstream from the bleed-type master air valve. The air relief valve opens automatically to prevent over-pressurization of the pump.

The fluid filter includes a 60 mesh (250 micron) stainless steel element to filter particles from the fluid as it leaves the pump. It also includes the fluid drain valve, which is required in your system to relieve fluid pressure in the hose and gun

The suction hose and tube allow the pump to draw fluid from a 5 gallon (19 liter) pail. The strainer at the end of the suction tube keeps large particles from entering the pump.

- A. Air Motor
- B. Oil Nut
- C. High Pressure Filter
- D. Fluid Drain Valve
- E. High Pressure Hose
- F. Airless Spray Gun
- G. FLR (filter, lubricator, regulator)
- H. Suction Tube
- I. Suction Filter
- J. Master Air Inlet Valve
- K. Master Air Inlet





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OPERATION

1. Close the fluid supply inlet; make the pump circulates out all of the internal fluid.
2. Close the bleed-type air valve first, and open the fluid outlet valve or trigger the gun to relieve pressure and open the drain valve
3. After above steps, the pump would operate slowly until the pressure relief completely.
4. Close the fluid outlet valve.

Leave the fluid drain valve open until you are ready to pump the fluid again. If the hose is completely clogged, or pressure has not been fully relieved after following the steps above, very slowly loosen the hose and coupling and relieve pressure gradually, then loosen completely. Then clear the hose.

FLUSH THE PUMP BEFORE FIRST USE

The pump is tested with lightweight oil, which is left in to protect the pump parts. If the fluid you are using may be contaminated by the oil, flush it out with a compatible solvent. To clean any settled particles out of the system, flush the entire system after a period of time. (Recommended 90 days or less).

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PRIMETHEPUMP

1. Close all of the air valves.
2. Close all of the Fluid valves (fluid valve and fluid drain valve.)
3. Check all fitting components in this system are tightened.
4. Connect the air supply line to the air inlet of pump.
5. Connect the fluid inlet to the fluid source.
6. Open the bleed-type air valve.
7. Adjust the pressure of air regulator to 2~4 bars.
8. Open the fluid outlet valve slowly; operate the pump until the fluid is pumped out steadily.

To reduce the risk of injury, please always follow the pressure relief procedure.

NOTICE: Please do not make the pump run dry. Too fast operating could reduce the life of the pump and damage the pump. If the pump operates too fast, please reduce the operated air pressure.



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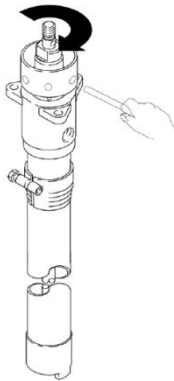
INSTRUCTIONS

Shutdown and Care of the Pump

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the Pressure Relief Procedure

Check the oil in the cup of pump; please add the appropriate lubricated oil, and it should be over a half of cup in order to prolong the life of O-ring and packing.

After a period of time using the pump, the packing and the O-ring below the cup could be loosen by wearing. Meanwhile, please using the tools that COSMOSTAR provided (or using the compatible one) to fix the hole of the cup and turn it by clockwise. The cup would be tighten with packing and O-ring, and the material would be stop leaking.



For overnight shutdown, stop the pump at the bottom of its stroke to prevent fluid from drying on the exposed displacement rod and damaging the throat packing. Relieve the pressure. Always flush the pump before the fluid dries on the displacement rod. See Flushing below.

Flushing

Flush the pump:

1. Before the first use
2. When changing colors or fluids
3. Before storing the pump.

Flush with a fluid that is compatible with the fluid you are pumping and with the wetted parts in your system. Check with your fluid manufacturer or supplier for recommended flushing fluids and flushing frequency. Never leave water or water-base fluid in the pump overnight.

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the

Pressure Relief Procedure.

1. Relieve the pressure.
2. Prepare the compatible flushing fluid in order to flush
3. Start the pump. Always use the lowest possible operated pressure when flushing.
4. Flush the system until clear solvent flows from the fluid outlet.
5. Relieve the pressure.



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INSTRUCTIONS

TROUBLE SHOOTING

Daily check

Before starting pump operation, be sure to conduct the following check every day. If any irregularity is found, DO NOT start running the pump until the cause of irregularity has been found and corrective measures have been taken.

1. Verify the drain flow through the air filter.
2. In case using a lubricator, verify the quantity of lubricating oil.
3. Make sure that there is no leakage of fluid from any connection part or the pump.
4. Make sure that there are no cracks in the pump casing or piping.
5. Check the tightness of every bolt of the pump.
6. Make sure that the connection parts of the piping and peripheral equipment are not loose.
7. Make sure that the time has not elapsed for replacing any parts of the pump are to be replaced at regular intervals.

AirMotor

Problem	Cause	Solution
Air motors fails To operate	Restricted line or inadequate air supply.	Clear the line or increase air supply.
	Insufficient air pressure; closed or clogged air valves, etc.	Open and clean the valve.
	Inadequate fluid supply.	Refill the air and clear the field lines.
	Damaged air valve mechanism; stalling.	Replace the valve.
	Air leaks out from the O-ring.	Adjust and replace the O-ring.
Air motors operates unsteadily	Insufficient air pressure; closed or clogged air valves, etc.	Open and clean the valve.
	Air valve is loosened. Restricted line or inadequate air supply.	Tighten or replace.



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INSTRUCTIONS

TROUBLE SHOOTING

Displacement Pump

Problem	Cause	Solution
Pump fails to operate	Restricted line or inadequate air supply.	Clear; use higher air supply.
	Obstructed fluid hose; fluid hose ID is too small.	Clear; use hoses with larger ID.
	Fluid dried on the displacement rod.	Clean.
	Dirty or worn air motor parts.	Clean or repair.
Pump operates, but output low on both strokes	Restricted line or inadequate air supply.	Clear; use higher air supply.
	Obstructed fluid hose; fluid hose ID is too small.	Clear; use hoses with larger ID.
	Bleed valve open.	Close.
	Air leaking into supply container.	Check wiper plate seal.
	Worn packing in displacement pump.	Replace pickings.
Pump operates but output low on down stroke	Held open or worn intake valve or seals.	Clear valve; replace seals.
Pump operates, but output low on up stroke	Held open or worn piston valve or seals.	Clean, repair a fluid pump.
Erratic or accelerated pump speed	Exhausted fluid supply.	Change the pails.
	Held open or worn piston valve or seals.	Clear valve; replace seals.
	Worn packing in displacement pump.	Replace pickings.



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TECHNICAL DATA

CATEGORY

Air Motor Diameter
Pressure Ratio
Maximum Fluid Working Pressure
Maximum Air Input Pressure
Maximum Volume Flow Rate
Volume Per Cycle
Maximum Recommended Pump
Air Inlet Size
Fluid Inlet Size
Fluid Outlet Size
Maximum Operating Temperature

DATA

6 in (COMPACT)
30:1
3600 psi (248 bar)
120 psi (8.3 bar)
1.0 GPM (3.8 LPM)
62 cc
60 cycles per min
3/8 and 1/4 npt(f)
3/4 npt(f)
3/8 npt(f)
82°C (180°F)