

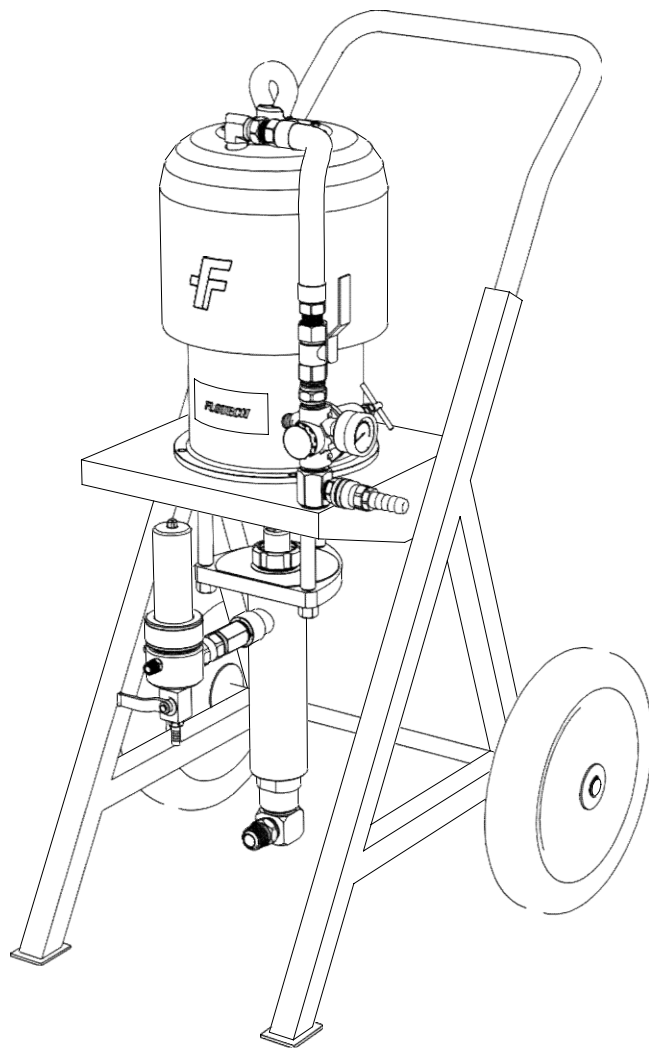
REPAIR INSTRUCTIONS

MODEL : DK451-000






45:1 Ratio Pump

4500 PSI (31.50 MPa, 310 bar) Maximum Fluid Working Pressure

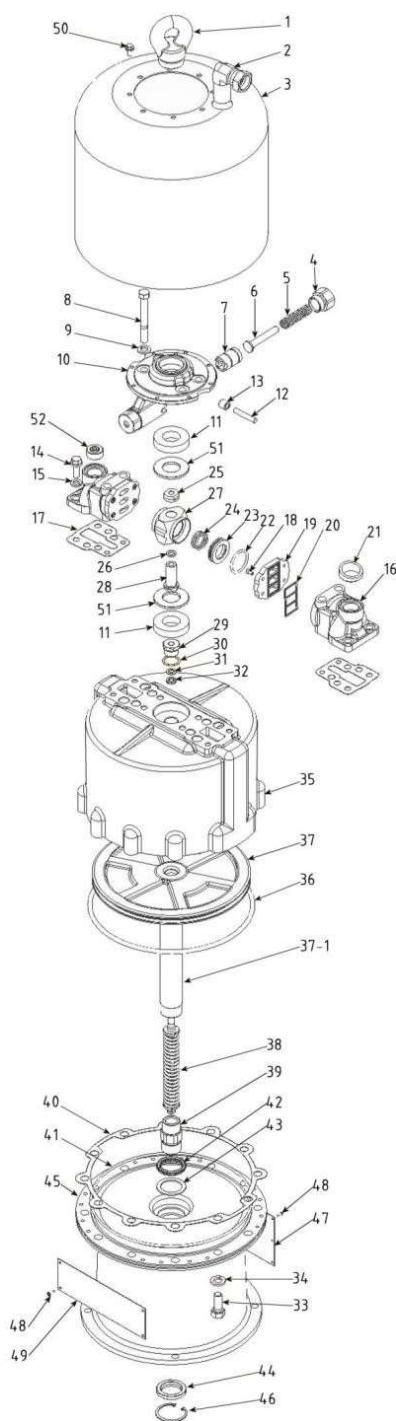
100 psi (0.7 MPa, 7 bar) Maximum Air Pressure



WARNING

	<p>INJECTION HAZARD</p> <p>Spray from the spray gun, hose leaks or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Splashing fluid in the eyes or on the skin can also cause serious injury.</p> <ul style="list-style-type: none"> _ Fluid injected into the skin is a serious injury. The injury may look like just a cut, but it is a serious injury. Get immediate medical attention. _ Do not point the gun at anyone or any part of the body. _ Do not put hand or fingers over the spray tip. _ Do not stop or deflect leaks with your hand, body, glove or rag. _ Do not “blow back” fluid; this is not an air spray system. _ Always have the tip guard on the spray gun when spraying _ Check the spray gun diffuser (if so equipped) operation weekly. Refer to the gun manual. _ Be sure the spray gun safety knob operates before operating the gun. _ Lock the spray gun safety knob when you stop spraying. _ Tighten all fluid connections before each use. _ Check the hoses, tubes and couplings daily. <ul style="list-style-type: none"> Replace worn or damaged parts immediately. Permanently coupled hoses cannot be repaired. _ Handle and route hoses and tubes carefully. Keep hoses and tubes away from moving parts and hot surfaces. Do not use the hoses to pull equipment. Do not expose FLOTECH hoses to temperatures above 150_F (66_C) or below -40_F (-40_C). 		<p>EQUIPMENT MISUSE HAZARD</p> <p>Equipment misuse can cause the equipment to rupture, malfunction, or start unexpectedly and result in serious injury.</p> <ul style="list-style-type: none"> _ 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. If you are uncertain about the usage, call your distributor. _ Do not alter or modify this equipment. Use only genuine FLOTECH parts and accessories. _ Check the equipment daily. Repair or replace worn or damaged parts immediately. _ Do not exceed the maximum working pressure of the lowest rated system component. _ Do not lift pressurized equipment. _ Route the hoses away from the traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose FLOTECH hoses to temperatures above 150_F (66_C) or below -40_F (-40_C). _ Do not use the hoses to pull the equipment. _ Use fluids or solvents that are compatible with the equipment wetted parts.. Read the fluid and solvent manufacturer's warnings. _ Fluid hoses must have spring guards on both ends to protect them from rupture caused by kinks or bends near the couplings. _ Comply with all applicable local, state and national fire, electrical and other safety regulations.
	<p>TOXIC FLUID HAZARD</p> <p>Hazardous fluids or toxic fumes can cause a serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> _ Know the specific hazards of the fluid you are using. _ Store hazardous fluid in an approved container. _ Dispose hazardous fluid according to all local, state and national guidelines. _ Always wear protective eyewear, gloves, clothing and recommended by the fluid and solvent manufacturer. 		<p>FIRE AND EXPLOSION HAZARD</p> <p>Improper grounding, poor air ventilation, open flames, or sparks can cause a hazardous condition and result in fire or explosion and serious injury.</p> <ul style="list-style-type: none"> _ Ground the equipment and the object being sprayed. _ Provide fresh air ventilation to avoid the buildup of flammable fumes from solvent or the fluid being sprayed. _ Extinguish all the open flames or pilot lights in the spray area. _ Electrically disconnect all the equipment in the spray area. _ Keep the spray area free of debris, including solvent, rags, and gasoline. _ Do not turn on or off any light switch in the spray area while operating or if fumes are present. _ Do not smoke in the spray area. _ Do not operate a gasoline engine in the spray area. _ If there is any static sparking while using the equipment, stop spraying immediately. Identify and correct the problem.
	<p>MOVING PARTS HAZARD</p> <p>Moving parts, such as the air motor piston and the secondary pump lever and connecting rod area, can pinch or amputate fingers.</p> <ul style="list-style-type: none"> _ Do not operate the equipment with the air motor plates removed. _ Keep your body and tools clear of any moving parts when starting or operating the equipment. 		

Parts drawing and Parts List for Air Motor DK254-100



No	Part No	Description	Qty
1	DK254-01	Lift RING	1
2	DK254-02	Adapter UNION	1
3	DK254-03	Motor SHIELD	1
4	DK254-04	RETAINER	2
5	DK254-05	Compression SPRING	2
6	DK254-06	GUIDE	2
7	DK254-07	PLUNGER	2
8	DK254-08/09	SCREW & LOCK WASHER	4
9			
10	DK254-10	HOUSING, detent	1
11	DK254-11	PAD Rubber	2
12	DK254-12	AXLE	2
13	DK254-13	ROLLER	2
14	DK254-14/15	SCREW & LOCK WASHER	4
15			
16	DK254-16	Air MANIFOLD	2
17	DK254-17	Manifold GASKET	2
18	DK254-18	SCREW	8
19	DK254-19	Valve PLATE	2
20	DK254-20	Plate SEAL	2
21	DK254-21	GROMMET	1
22	DK254-22	O-RING	2
23	DK254-23	Air VALVE	2
24	DK254-24	Compression SPRING	2
25	DK254-25	NUT, Trip rod	1
26	DK254-26	Lock WASHER	1
27	DK254-27	Valve HOUSING	1
28	DK254-28	HUB	1
29	DK254-29	BEARING, trip rod	1
30	DK254-30	GASKET	1
31	DK254-31	Backup WASHER	1
32	DK254-32	Vee PACKING	1
33	DK254-33	Hex SCREW	12
34	DK254-34	WASHER	12
35	DK254-35	Motor CYLINDER	1
36	DK254-36	Piston O-RING	1
37	DK254-37	PISTON , plate	1
37-1	DK254-37-1	ROD, piston	1
38	DK254-38	TRIP ROD , Ass'y	1
39	DK254-39	STUD	1
40	DK254-40	Motor GASKET	1
41	DK254-41	Packing O-RING	1
42	DK254-42	Vee PACKING	1
43	DK254-43	Backup WASHER	1
44	DK254-44	Wiper SEAL	1
45	DK254-45	BASE SEAL	1
46	DK254-46	SANP RING	1
47	DK254-47	NAME PLATE(Rear)	1
48	DK254-48	SCREW	10
49	DK254-49	NAME PALTE(Front)	1
50	DK254-50	SCREW	9
51	DK254-51	THRUST WASHER	2
52	DK254-52	PLUG	1

Note : part marked in color are the repair parts
 Replacement Danger and Warning labels, tags and cards
 are available at no cost.

These parts are included in repair kit : **DK254-AM** which may be purchased separately.
Always use genuine FLOTECH parts.

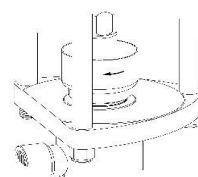
Operation

1. Lock the spray gun trigger safety.
2. Close the red-handed bleed-type master air valve
3. Unlock the gun trigger safety.
4. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
5. Lock the gun trigger safety.
6. Open the drain valve having a container ready to catch the drainage.
7. Leave the drain valve open until you are ready to spray again.

If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip or hose.

Packing nut / wet-cup

Before starting, fill the packing nut 1/3 full with TSL or compatible solvent. To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the pressure relief procedure. The packing nut is torqued at the factory and is ready for operation. If it becomes loose and there is leaking from the throat packings, relieve pressure, then torque the nut to 136-149N.m using a wrench. Do this whenever necessary. Do not over tighten the packing nut.



Flush the Pump Before first Using

The pump is tested with lightweight motor 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 before using the pump. If the pump is being used to supply a circulating system, allow the solvent to circulate until the pump is thoroughly flushed.

Flush the pump.

- Before the first use.
- When changing colors or fluids.
- Before fluid can dry or settle out in a dormant pump (check the pot life of catalysed fluids)
- Before storing the pump

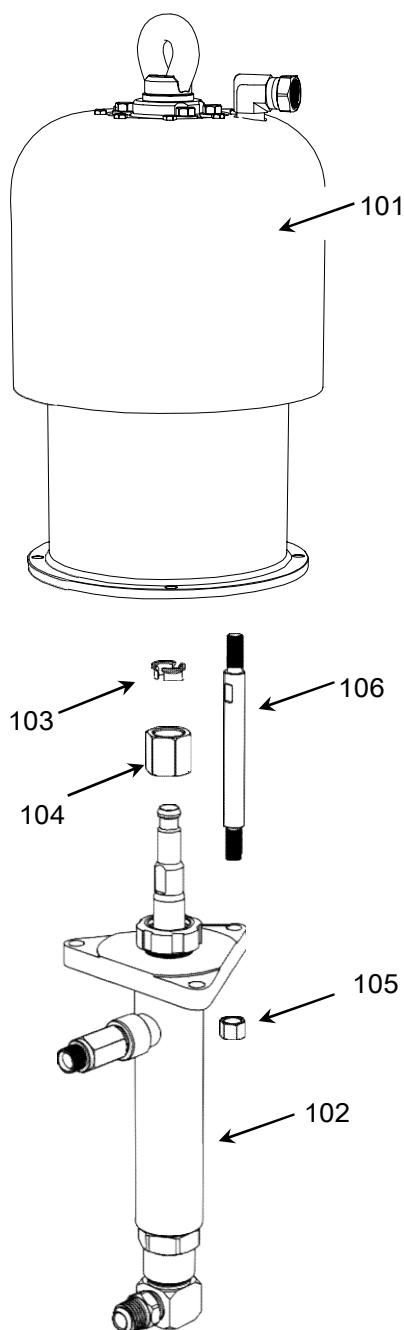
Flush with a fluid that is compatible with fluid you are pumping and with the wetted parts in your system.

Check with a fluid manufacturer or supplier for recommended flushing fluids and flushing frequency.

Technical Data

Category	K-TYPE AIR MOTOR	B-TYPE AIR MOTOR
	250cc, K451	
Maximum fluid working pressure	39 MPa 386 bar	17 MPa 165 bar
Maximum air input pressure	0.7 MPa, 7 bar	
Ratio	45:1	24:1
Air inlet size	3/4 in. npt(f)	
Air inlet size	3/4 in. npt(f)	
Fluid inlet size	1 -1/4 in npt	
Displacement per cycle	250cc	
Maximum operating temperature	82°C (180°F)	
Wetted parts	Carbon Steel; Alloy Steel; S45C, 415,440; Zinc and Nickel Plating; Ductile Iron; Tungsten Carbide; PTFE; Leather	

Parts drawing and Parts List



No	Part No	Description	Qty
101	DK254-100	AIR MOTOR	1
102	DK451-200	DISPLACEMENT PUMP ASS'Y	1
103	DK-KS003	COUPLING COLLER	2
104	DK-KS004	COUPLING NUT	1
105	DK-KS005	NUT	3
106	DK-KS006	TIE ROD	3

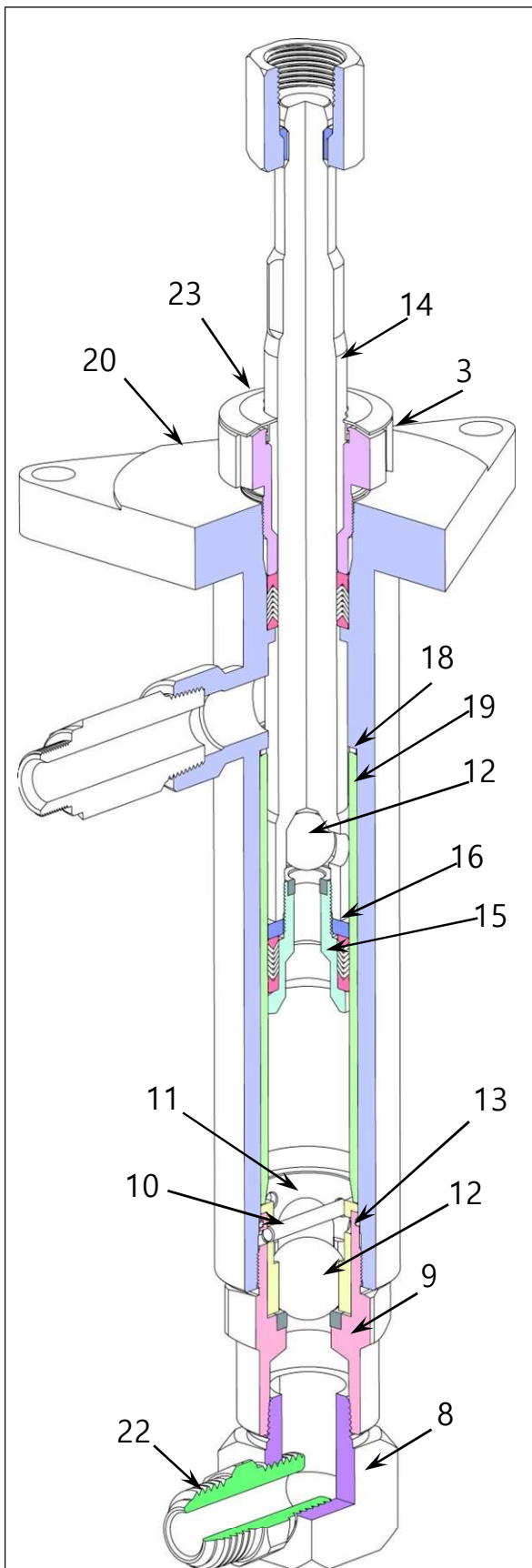
DISCONNECTING THE DISPLACEMENT PUMP

1. Flush the pump if possible. Stop the pump at the bottom of its stroke. **Relieve the pressure.**
2. Disconnect the air and fluid hoses. Remove the pump from its mounting.
3. Unscrew the coupling nut off of the air motor piston rod . Be Carefully not to loss the two couplers as you lower the nut. Unscrew the tie rod locknuts from the tie rods. Carefully pull the displacement pump away from the air motor.
4. To service the displacement pump, refer to displacement pump service.

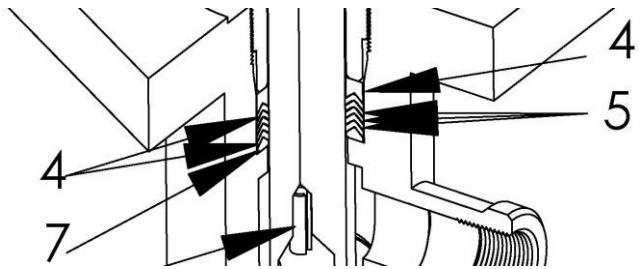
RECONNECTING THE DISPLACEMENT PUMP

1. Align the pump's fluid outlet to the optional fluid outlet of the air motor. Position the displacement pump on the tie rod.
2. Make sure the couplers are in place inside the coupling nut. Screw the coupling nut up onto the air motor piston rod snugly. Screw the locknut onto the tie rods loosely.
3. Mount the pump and reconnect all hoses. Reconnect the ground wire if it was disconnected during repair.
4. Tighten the tie rod locknuts evenly, and torque to 40-50ft-lb (54-68 N.m). Torque the coupling nut to 145-155 ft-lb(195-210 N. m)
5. Start the pump and run it slowly, at about 40 psi (280 kPa,2.8 bar) air pressure, to check the tie rods for signs of binding. Adjust the tie rods as necessary to eliminate binding. Tighten the packing nut/wet-cup whit the wrench supplied. Fill the wet-cup half full whit throat seal liquid or compatible solvent.

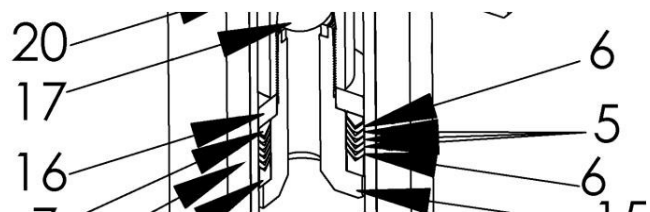
Service



Throat Packing



Piston Packing



Technical Data

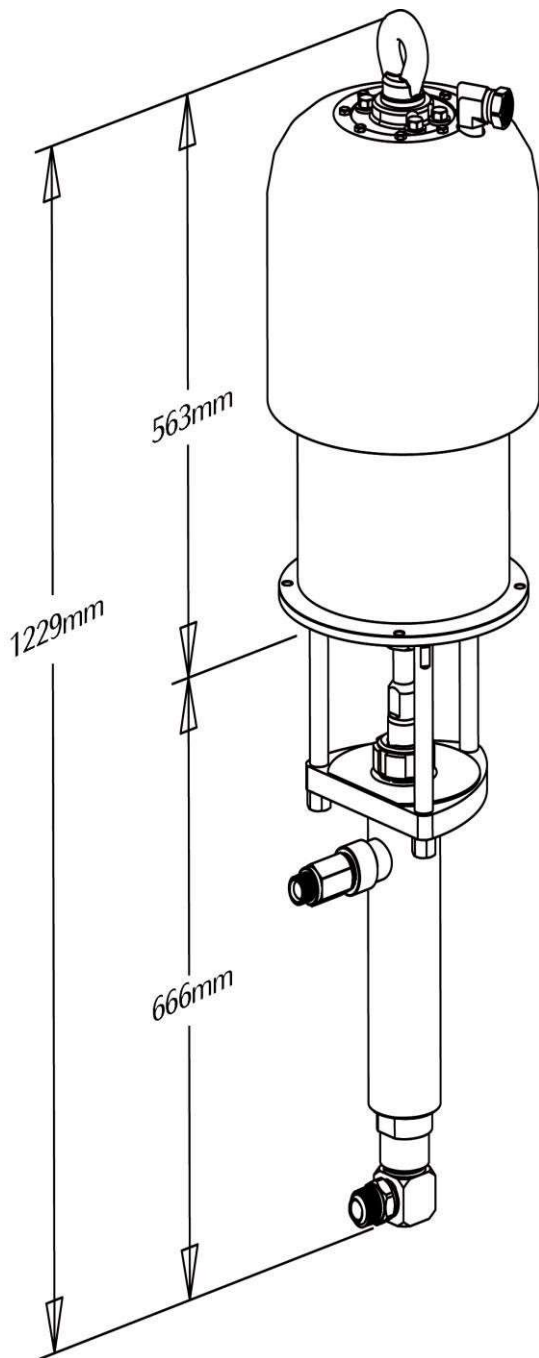
Maximum fluid working pressure

4500 psi (31.5 MPa, 310 bar)

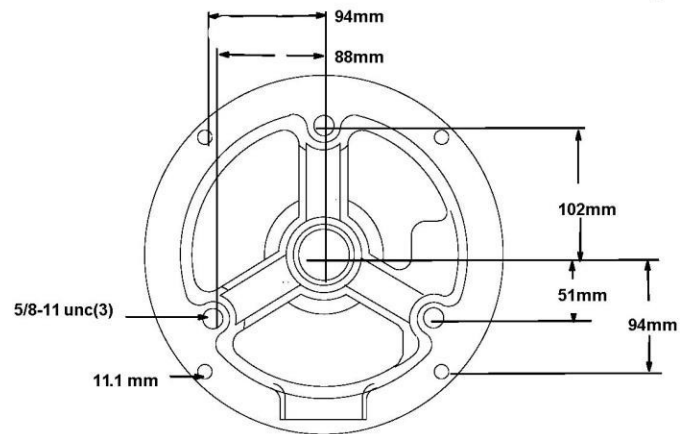
Maximum air input pressure

100 psi (0.7 MPa, 7.0 bar)

Dimensions

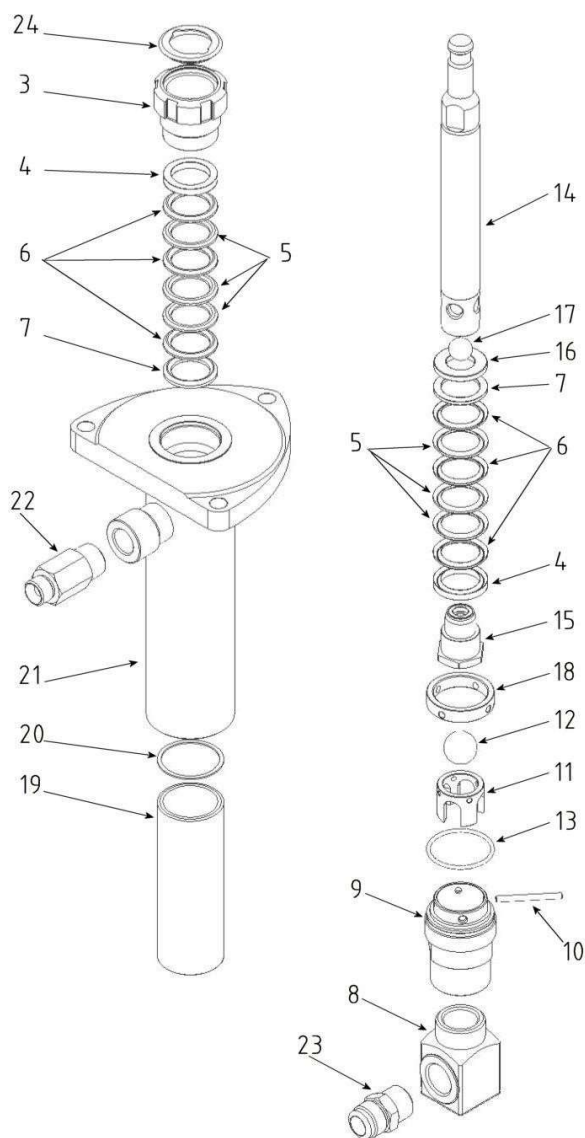


Mounting Hole Layout



Parts drawing and Parts List

250cc Pump



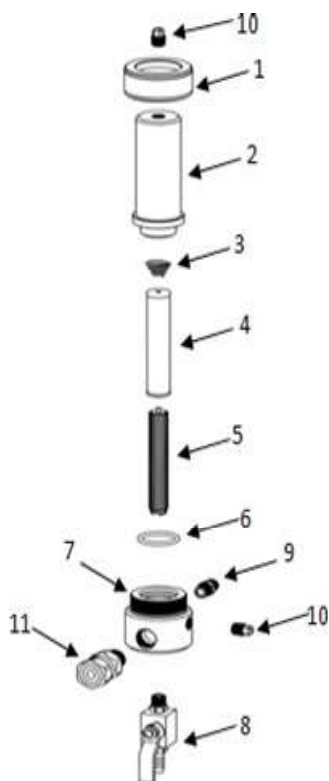
Note : part marked in color are the spareparts

*These parts are included in repair kit **DK451-LA** which may be purchased separately.*

Always use genuine parts

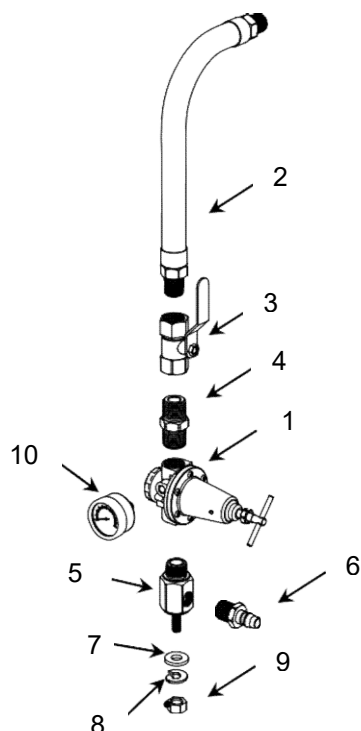
No	Code	Description	Qty
3	DK451-03	PACKING NUT	1
4	DK451-04	PACKING GLAND(F)	2
5	DK451-05	PACKING(LEATHER)	6
6	DK451-06	PACKING(TEFLON)	6
7	DK451-07	PACKING GLAND(M)	2
8	DK451-08	TUBE	1
9	DK451-09	INTAKE HOUSING	1
10	DK451-10	PIN	1
11	DK451-11	BALL GUIDE	1
12	DK451-12	BALL (1-1/4")	1
13	DK451-13	O-RING(TEFLON)	1
14	DK451-14	DISPLACEMENT ROD	1
15	DK451-15	VALVE PISTON	1
16	DK451-16	WASHER	1
17	DK451-17	BALL (7/8")	1
18	DK451-18	RETAINER	1
19	DK451-19	SLEEVE	1
20	DK451-20	GASKET	1
21	DK451-21	PUMP HOUSING	1
22	DK-KSX028	NIPPLE(PT1" X PF3/4")	1
23	DK-KSX027	NIPPLE(PT1" X PF1")	1
24	DK451-24	PLUG	1

SURGE TANK ASS'Y (DK254-300)



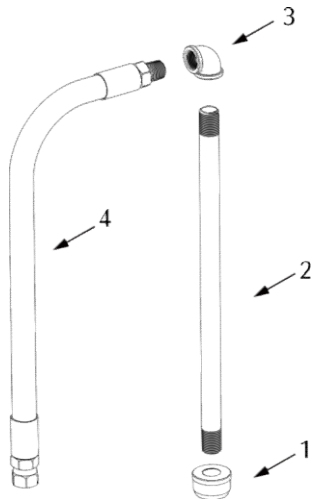
No	PART NO.	DESCRIPTION	Q'TY
1	DK254-301	RING(S45C)	1
2	DK254-302	BOWL(S45C)	1
3	DK254-303	SPRING	1
4	DK-KS2202	STRAINER #60	1
5	DK186-075	SUPPORT	1
6	DK254-306	PACKING,O-RING	1
7	DK254-307	MANIFOLD	1
8	DK254-308	BALL VALVE	1
9	DK254-309	NIPPLE	1
10	DK254-310	PLUG	2
11	DK254-311	UNION	1

REGULATOR ASS'Y(DK254-400)



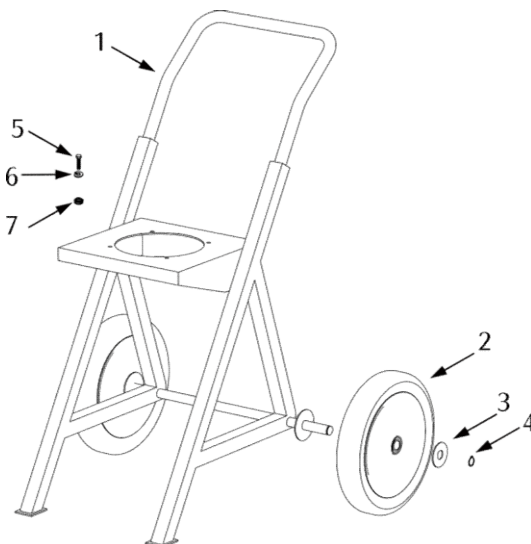
No.	PART NO.	DESCRIPTION	Q'TY
1	DK254-401	AIR REGULATOR&GUAGE	1
2	DK254-402	AIR HOSE	1
3	DK254-403	SHUTOUT VALVE	1
4	DK254-404	NIPPLE	1
5	DK254-405	AIR MANIFOLD	1
6	DK254-406	COUPLING	1
7	DK254-407	WASHER	1
8	DK254-408	SPRING WASHER	1
9	DK254-409	NUT	1
10	DK254-410	GUAGE	1

SUCTION ASS'Y(DK254-500)



No.	PART NO.	DESCRIPTION	Q'TY
1	DK-KS22901	FILTER 1" (STAINLESS STEEL)	1
2	DK254-502	SUPPORT PIPE	1
3	DK254-503	ELBOW	1
4	DK254-504	SUCTION HOSE 1.2M	1

CART ASS'Y(DK254-600)



No.	PART NO.	DESCRIPTION	Q'TY
1	DK254-601	CART	1
2	DK254-602	TIRE	2
3	DK254-603	WASHR	2
4	DK254-604	SNAP RING	2
5	DK254-605	S.H.C.R	4
6	DK254-606	WASHER	4
7	DK254-607	NUT	4

FLOTECH Standard Warranty

FLOTECH warrants all equipment referenced in this document which is manufactured by FLOTECH and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by FLOTECH, FLOTECH will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by FLOTECH to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with FLOTECH written recommendations.

This warranty does not cover, and FLOTECH shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-FLOTECH component parts. Nor shall FLOTECH be liable for malfunction, damage or wear caused by the incompatibility of FLOTECH equipment with structures, accessories, equipment or materials not supplied by FLOTECH, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by FLOTECH.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized FLOTECH distributor for verification of the claimed defect. If the claimed defect is verified, FLOTECH will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

FLOTECH sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within six months of the date of sale.

FLOTECH MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD

BUT NOT MANUFACTURED BY FLOTECH. These items sold, but not manufactured by FLOTECH (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. FLOTECH will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will FLOTECH be liable for indirect, incidental, special or consequential damages resulting from FLOTECH supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of FLOTECH or otherwise.

FLOTECH Information

TO PLACE AN ORDER OR FOR SERVICE, contact your FLOTECH distributor, or call these numbers to identify the nearest distributor.

SPEEDO MARINE (PTE) LTD
No.11 Tuas Link 2 Singapore 638559
TEL: +65-68631998 FAX: +65-68631667
E-mail : enquiry@speedo.com.sg
<http://www.speedo.com.sg>

Test certificate

- 1. Type of equipment : Flotech airless spray pump
- 2. Model : KING 45 : 1
- 3. Serial No . : 4522022
- 4. Manufacture date : Mar, 2022
- 5. Max. inlet pressure : 100 psi
- 6. Max. Outlet pressure : 4,500 psi
- 7. Delivery : 3.98 (14.5) gpm (liter/min)

It is hereby certificated that the items supplied on this shipment have been found to be in conformance with in specification, testing, and manufacturing procedures according to the manufacturer's test specification.

Q.C Inspector : DuYoung. Um Date : 04-03-2022

Production Manager : Changsam. Choi Date : 04-03-2022