BINKS

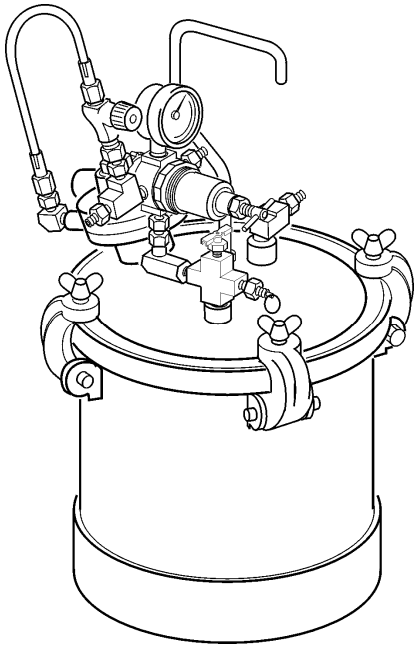
CE 0353

SB-E-21-042-B

83C-211 & 83Z-211 PRESSURE TANK (WATERBORNE COMPATIBLE)

Small Tank - Up To 9.5 litres (2.8 US Gallons) with Air Driven Agitator

IMPORTANT: Read and follow all instructions and SAFETY PRECAUTIONS before using this equipment. Retain for future reference.



DESCRIPTION

These Pressure Tanks are CE marked in accordance with the Pressure Equipment Directive 97/23/EC. They are suitable for use with flammable and waterbased (83Z only) materials.

These pressure tanks are designed as a pressure container to supply liquid material at a constant preset pressure up to a maximum of 5.5 bar (80 psi). An Air driven agitator is fitted to provide variable speed agitation of the coating material. The tanks are built to ASME specifications. 83C models are constructed from electro-zinc plated carbon steel. 83Z models have stainless steel fluid passages and lid A polyethylene liner is included for easy clean up.

Models:

83C-211: Single regulation, air driven agitator assembly, electro-zinc plated carbon steel construction lid and shell..

83Z-211: Single regulation (fluid), air driven agitator assembly, electro-zinc plated carbon steel shell, stainless steel fluid passages and lids for waterbased materials.

WARNING

Halogenated hydrocarbon solvents - for example: 1,1,1, - trichloroethane and methylene chloride - can chemically react with aluminium parts and components and cause an explosion hazard. These solvents will also corrode the galvanized tank coating. Read the label or data sheet for the material. Do not use materials containing these solvents with these pressure tanks.

CAUTION

Refer to specifications chart to ensure that fluids and solvents being used are chemically compatible with the tank wetted parts. Before placing fluids or solvents in tank, always read accompanying manufacturer's literature and MSDS.

WARNING

Air pressure loads that are higher than design loads, or changes to the pressure feed tank can cause the tank to rupture or explode.

· A safety valve protects the tank from over pressurization. During each use pull the ring on the safety valve to make sure it operates freely and relieves air pressure. If the valve is stuck, does not operate freely, or does not relieve air pressure, it must be replaced. Do not eliminate, make adjustments or substitutions to this valve.

· Changes to the air tank will weaken it. Never drill into, weld or change the tank in any way.

· The maximum working pressure of this tank is 5.5 bar (80 psi).

WARNING

Static electricity is created by the flow of fluid through the pressure tank and hose. If all parts are not properly grounded, sparking may occur. Sparks can ignite vapours from solvents and the fluid being sprayed.

If static sparking, or slight shock, is experienced while using this equipment, stop spraying immediately.

Ground the pressure tank by connecting one end of a 12 gauge minimum ground wire to the pressure tank and the other end to a true earth ground. Local codes may have additional grounding requirements.

WARNING

Pressure Relief Procedure

High pressure can cause a serious injury. Pressure is maintained in a pressure tank after the system has been shut down. Before attempting removal the cover, pressure must be relieved using the following steps:

1. Turn off the main air supply to the tank.

2. Close air inlet valve located on tank air manifold.

3. Bleed off air in the tank by turning the air relief valve thumb screw counterclockwise. Wait until all the air has escaped through the valve before removing the pressure tank cover.

4. Leave the air relief valve open until you have reinstalled the cover.

SAFETY PRECAUTIONS

This manual contains information that is important for you to know and understand. This information relates to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the following symbols. Please pay particular attention to these sections

CAUTION

Important information that tells how to prevent damage to equipment, or how to avoid a situation that may cause minor injury.

WARNING

Important safety information - A hazard that may cause serious injury or loss of life.

NOTE

Information that you should pay special attention to.

WARNING

The following hazards may occur during the normal use of this equipment. Please read the following chart.

HAZARD	CAUSE	SAFEGUARDS
FIRE 	Solvents and coatings can be highly combustible, especially when sprayed.	1. Adequate exhaust must be provided to keep the air free of accumulations of flammable vapours 2. Smoking must never be allowed in the spray area. 3. Fire extinguishing equipment must be present in the spray area.
FIRE - PRESSURE TANK 	Vapours from flammable liquids can catch fire or explode	1. Keep tank at least 3 metres away from sources of ignition, including hot surfaces, mechanical sparks and arcing (non-explosion proof) electrical equipment.
INHALING TOXIC SUBSTANCES 	Certain materials may be harmful if inhaled, or there is contact with the skin.	1. Follow the requirements of the Material Safety Data Sheet supplier by the coating manufacturer. 2. Adequate exhaust must be provided to keep the air free of accumulations of toxic materials. 3. Use a mask or respirator wherever there is a risk of inhaling sprayed materials. The mask must be suitable for the material being sprayed.
EXPLOSION, PRESSURE TANK—RUPTURE 	Making any changes or modification to the pressure tank may weaken it.	1. Never drill into, weld or modify the tank in any way. 2. Do not adjust, remove or tamper with the safety valve. 3. Only replace the safety valve with the correct spare part as listed. 4. Do not fit any other safety valve of a higher pressure rating than the maximum working pressure of the tank.
GENERAL SAFETY	Improper operation or maintenance may create a hazard.	Operators should be given adequate training in the safe use and maintenance of this equipment. Refer to Pressure Systems Safety Regulations 2000 Approved Code of Practice

PART NUMBER CHART

Tank Code	Weight (kg)	Height (mm)
83C-211	14.8	485
83Z-211	14.8	485

SPECIFICATION

Tank Capacity	9.5 litres
Maximum working pressure	5.5 bar (80 psi)
Safety Valve set pressure	5.5 bar (80 psi)
Air Inlet Size	1/4" NPS or BSP (M)
Fluid Outlet Size	3/8" NPS or BSP(M)
Air Motor air Consumption	85 - 170 litres/min (3—6 CFM) at 4.1 bar (60 psi)
Maximum Agitator Pressure	6.7 bar (100 psi)

MATERIALS OF CONSTRUCTION

Tank Shell		SA-620 H.R Steel Zinc plate 2.7 mm (8 Gauge)
Tanks Lid	**83C**	SA-414 H.R Steel Zinc plate 4.2 mm (3/16")
	83Z	304 Stainless Steel 4.2 mm (8 Gauge)
Fluid Tube	**83C**	Steel, Galvanised Zinc Plate
	83Z	Stainless Steel
Air Manifold		CRS Zinc Plated
Fluid Outlet	**83C**	Steel, Galvanised Zinc Plate
	83Z	Stainless Steel
Lid Gasket		Santoprene

PT-427/418 AIR DRIVEN AGITATOR

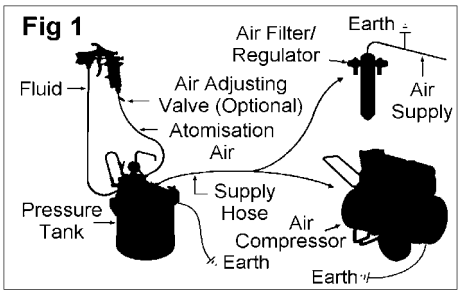
The agitator utilizes an air driven motor to turn the agitator shaft to which a propeller is attached. The rotation of the propeller mixes materials which have a tendency to separate or settle quickly. Material agitation may be performed at the same time material is being sprayed without any adverse effect. The air motor is powerful and smooth running. An air adjusting valve is included to control the speed of the agitator. The air motor requires low air consumption, approximately 85-170 lpm. at 4.1 bar. (Max. input air pressure 6.7 bar).

INSTALLATION

Mix and prepare material to be used according to manufacturer's instructions. Strain material through a fine mesh screen (60 or 90 mesh) to remove all foreign matter which is likely to enter and clog material passages.

1. Always relieve all air pressure in the tank. Pull the ring on the safety valve until pressure bleeds down.
2. Loosen thumb screws, tip lid clamps back and remove lid assembly.
3. Pour material into the tank. See accessories for disposable tank liners. A one gallon container may also be used by cutting 5mm off end of fluid tube at an angle.
4. Replace the lid assembly and tighten clamps and thumb screws securely.
5. If possible, the air supply line should pass through an air filter/regulator to filter dirt from air and remove entrained water and oil. See **ACCESSORIES** for filters available. Connect the air supply hose to the air inlet fitting on tank regulator.
6. Connect the atomisation air hose to the air outlet fitting which is directly opposite air inlet fitting.
7. Connect material hose to the fluid outlet fitting.
8. See Figure 1 for a typical setup.

Fig 1



OPERATION

1. Turn on the air supply.
2. Turn T-Handle adjusting screw clockwise on the tank regulator to increase material pressure: turn it counter clockwise to decrease pressure. Maximum tank pressure is 5.5bar
3. For tank with air motor agitator, turn the knob of the air adjusting valve (8) counterclockwise to set the desired agitator speed. Operate the agitator at he minimum speed required to keep the material thoroughly mixed. Do not over-agitate the material. Air bubbles may form in the material, causing a poor finish.
4. Atomization air for the spray gun can be adjusted at the gun by means of an air adjusting valve (P-H-5516) or, with the additional air regulator PT-413 available as an accessory (see P6).
5. See Spray Gun instructions for operation of the gun.

CAUTION

If using an air quick disconnect (Q.D.) at the inlet to the regulator at the pressure tank, do not disconnect the Q.D. while the tank is pressurized, unless the ball valve is closed. Doing so will allow tank pressure to quickly relieve, and can potentially pull paint back through the air regulator and air motor, depending upon the liquid level in the tank. Tank pressure should always be relieved by turning the regulator fully counterclockwise, or pulling the safety valve ring.

REPLACEMENT OF PARTS
(Air Motor Assembly, See Page 5)

Do not pry front plate (40) or end plate (46) from air motor body (43) with a screwdriver; this will dent the surface of the plates and body causing leaks. A puller tool should be used to remove the plate from the motor body while maintaining the position of the shaft. Holes must be drilled for dowel pins (42) after assembling front plate (40) on new body (43) for alignment of parts. Always install new end plate gaskets (41) when re-assembling air motor.

PREVENTIVE MAINTENANCE
To Clean Equipment:

1. If tank is equipped with agitator, turn off air to agitator first. This will prevent the possibility of paint contamination of the agitator air motor.
2. Turn off the main air supply to the tank.
3. Turn T-handle adjusting screw on tank regulator counterclockwise until no spring tension is felt.
4. Relieve all pressure from the tank by pulling the ring on the safety valve until the pressure bleeds down.
5. Loosen thumb screws, tip clamps back and tip tank lid to one side.
6. Loosen spray gun air cap retaining ring about three turns.
7. Turn on the air supply to spray gun.
8. Place cloth over air cap on the gun and pull trigger. This will force material back through the hose, into the tank.
9. Empty and clean tank and parts which come in contact with material. Use a suitable cleaning material.
10. Pour cleaning material into the tank.
11. Replace lid and tighten thumb screws and clamps.
12. Spray until clean solution appears.
13. Repeat steps 5 through 8.

CAUTION

Keep the safety valve clean at all times.

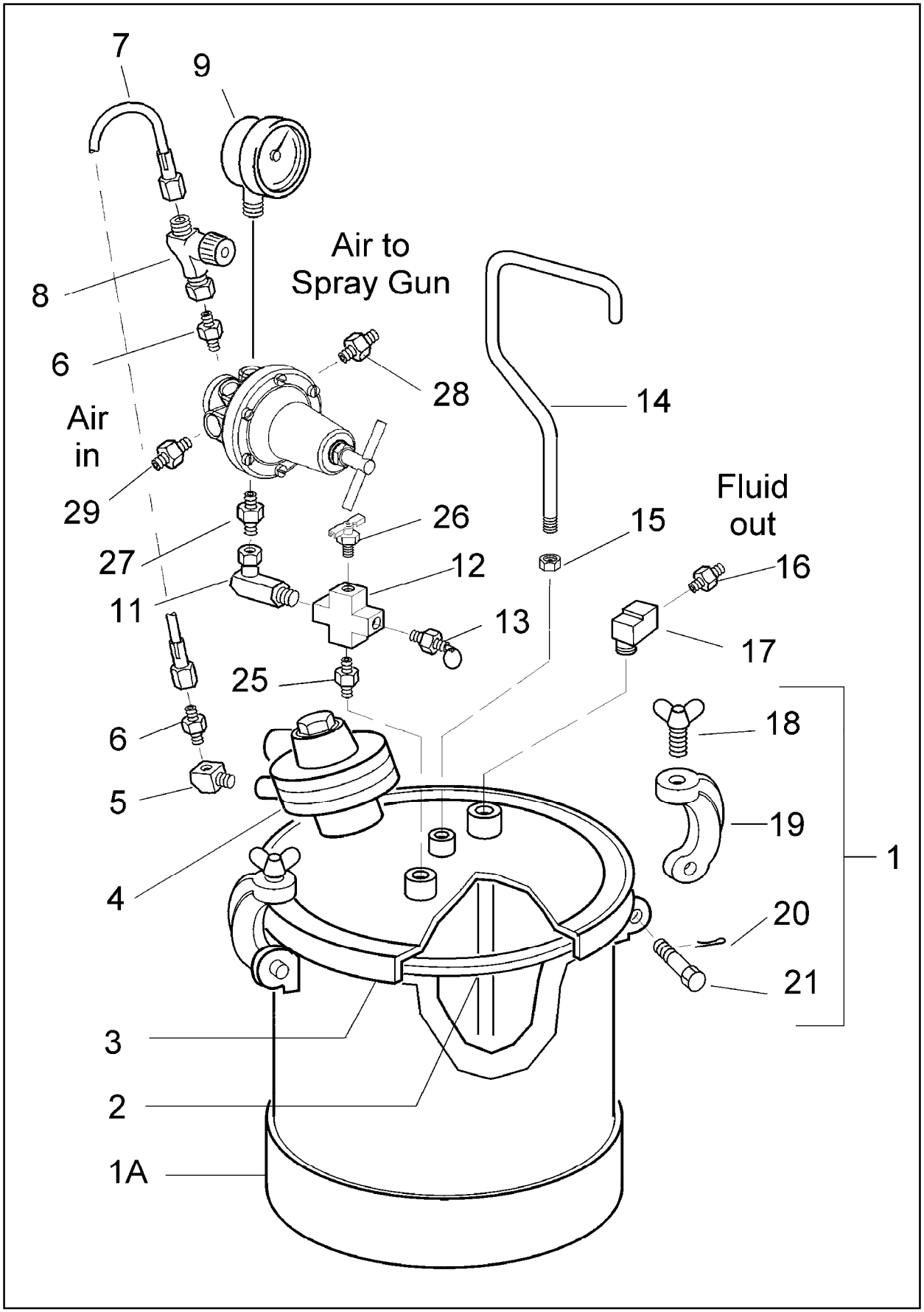
Air Motor Assembly

Failure to properly lubricate the air motor will result in premature motor failure and will void warranty.

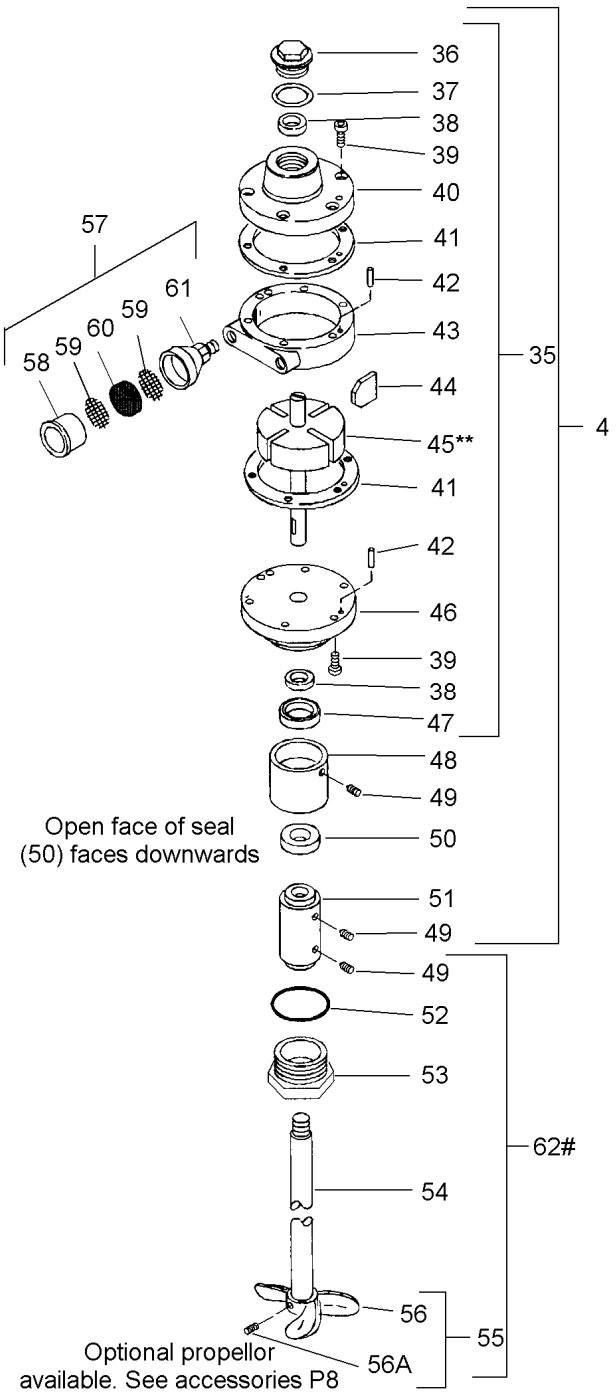
Lubricate air motor daily by adding 4 or 5 drops of SAE 10 weight oil into air inlet fitting.

Clean the agitator shaft (54, Pg. 5) and the propeller (56) at the end of each day. Occasionally remove and clean the muffler strainer felt (60) or replace, if necessary.

Ref. No.	Part No.		Description	Individual Parts Req.
1	PT-423		Tank Assy. Kit (Includes Ref Nos. 1A, 18, 19, 20 & 21)	1
1A	PT-420		Tank Shell	1
2	PT-33-2		Lid Gasket, Santoprene	1
3	PT-425	83C	Lid, Zinc Plated	1
	PT-421	83Z	Lid, Stainless Steel	1
4	PT-418	83C	Air Motor/Adaptor Assembly (see Pg 5 for breakdown)	1
	PT-427	83Z	Air Motor/Adaptor Assembly (see Pg 5 for breakdown)	
*5	————		Street Elbow 1/4' NPT (F) x 1/4" NPT (M)	1
6	H-2008		Nipple 1/4 ' NPT	1
7	HA-57011		Hose Assembly	1
8	HAV-500-1		Air Adjusting Valve 1/$' NPS (F) x 1/4' NPS (M)	1
9	83-2727		Gauge	1
10	HAR-511		Regulator	1
11	SSP-30-ZN		90° Swivel Adaptor 1/4' NPS (F) x 1/4' NPT (M)	1
12	————		Cross 1/4' NPT (F)	1
13	TIA-5080		Safety Valve—80 psi	1
14	PT-32		Handle	1
15	————		Hex Nut 3/8' - 16	1
16	AD-11	83C (NPT)	Nipple 3/8' NPT (M) x 3/8' NPT (M)	1
	2101007	83C (BSP)	Nipple 3/8' NPT (M) x 3/8' BPS (M)	1
	SSP-459	83Z (NPT)	Nipple 3/8' NPT (M) x 3/8' NPT (M) S.S	1
	CT-1164	83Z (BSP)	Nipple 3/8" NPT (M) x 3/8" BSP (M) SS	1
17	SSP-1916-NI	83C	Street Elbow 3/8' NPT (F) x 3/8' (M)	1
	SSP-1939	83Z	Street Elbow 3/8' NPT (F) x 3/8' (M) S.S	1
18	PT-79		Thumb Screw	4
19	————		Yoke Assembly	4
20	————		Cotter Pin, 3/32 x 1"	4
21	————-		Hinge Pin	4
22	PT-31	83C	Fluid Tube	
	QMS-9-1	83Z	Fluid Tube, S.S	1
23	PT-78-K10 or PT-78-K60		Tank Liner (Kit of 10 or 60)	1
25	SSP-462-ZN		Hex Nipple 1/4' NPT (M)	1
26	SS-2707		Air Relief Valve	1
27	83-4233		D.M Nipple (83Z-210)	1
28	H-2008	NPT	Nipple 1/4 ' NPT (M) x 1/4' NPS (M)	1
	2101004	BSP	Nipple 1/4 ' NPT (M) x 1/4' BSP (M)	1
29	83-4233	NPS	Nipple 3/8' NPT (M) x 1/4' NPS (M)	1
	2101005	BSP	Nipple 3/8' NPT (M) x 1/4' BSP (M)	1



83C & Z-211 Pressure Tank with Agitator



Ref. No 4 PT-418/427 Air Motor/Adaptor Assembly (includes ref. Nos. 35,48,50 & 51

#PT-828/419 (ref. No. 62 not included in PT-427

Ref. No.	Replacement Part No.		Description	Individual Parts Req.
* 35	PT-410	83C	Air Motor Assembly	1
	QMS-455	83Z		
36	QS-190	83C	End Cap	1
	PT-65	83Z		
* 37	——		End Cap Gasket	1
38	PT-58		Bearing	1
39	——		Screw (1/4”-28 x 1/2”)	12
* 40	——		Front Plate	1
* 41	PT-59-K10		End Plate Gasket	2
42	QS-189-1-K10		Dowel Pin (Kit of 10)	4
● 43	——		Body	1
* 44	——		Vane	4
● **45	——		Rotor Assembly	1
● 46	——		End Plate	1
47	PT-56		Shaft Seal	1
48	PT-50		Air Motor Adaptor	1
49	——		Set Screw (1/4”-20 x 1/4”)	4
50	KK-5041		Seal Assembly	1
51	QMG-441	83C	Shaft Coupling Kit (includes No 49)	1
	QMS-453	83Z		
52	SSG-8096-K5		“O” Ring (Kit of 5)	1
53	PT-70		Adaptor Nut	1
54	QMG-56	83C	Shaft	1
	QMS-73	83Z	Shaft SS	1
55	QMS-448		Propeller Assy	1
56	——		Propeller	1
56A	——		Set Screw (1/4”-20 x 3/8” S.S)	1
57	350-401		Muffler Assembly	1
58	——		Body	1
♦ 59	——		Screen	2
♦ * 60	——		Felt	1
61	——		Cap	1
# 62	PT-428	83C	Agitator Shaft Kit	1
	PT-419	83Z		

+ Parts included in KK-4977 Repair Kit

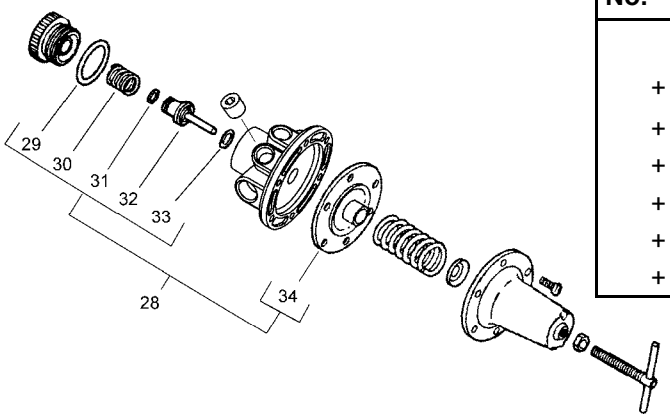
* Parts included in KK-5001-1 Air Motor Repair Kit

● Parts included in (35) PT-410/QMS-455 Air Motor Assembly

♦ Ref. No. (59) 2 ea. & Ref. No. (60) 4 ea. Included in KK-5006 Strainer Screen & Felt kit

** Not available separately, order (35) PT-410/QMS-455

Ref. 10 HAR-511 REGULATOR ASSEMBLIES



Ref. No.	Part No.	Description	Individual Parts Req.
28	KK-4977	Repair Kit	1
+ 29	———	"O" Ring	1
+ 30	———	Spring	1
+ 31	———	"O" Ring	1
+ 32	———	Valve	1
+ 33	———	"O" Ring	1
+ 34	———	Diaphragm Assembly	1

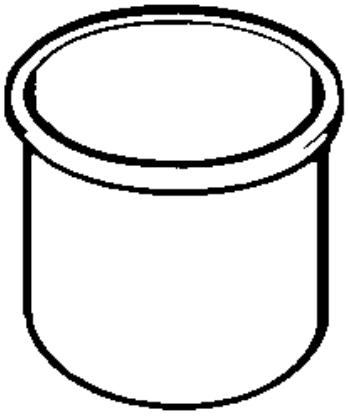
Service Checks

Condition	Cause	Correction
Air escaping from port on Regulator cap	Broken or damaged diaphragm (ref No. 34)	Replace diaphragm
Pressure creepage registered on gauge	Dirty or worn valve seat in regulator	Clean or replace valve seat
Air leakage at Agitator seal assembly	Defective Seal assembly (ref. No. 50)	Replace Seal
Air leakage from Safety Valve below maximum working pressure	The Valve seat is dirty or damaged, or the valve stem assy is seized	Replace Safety Valve. Do not attempt to repair.
Paint getting into bearing assembly of agitator	Paint level in tank too high Paint being over agitated Defective seal assembly (Ref. No. 50)	Fill tank to 50—75 mm below rim Slow down agitator speed Replace seal
Fluid or air leak at Lid Gasket	Defective Lid Gasket (ref. No. 2) Thumb Screws not sufficiently tight	Replace gasket Tighten Screws
Air Motor seized. A. If Agitator shaft does not turn by hand B. If Agitator shaft turns freely, check Air Motor	 Damaged seal assembly (ref. No 50) Vanes (ref. No. 44) blackened or chipped at outer edges due to a lack of lubrication	 Replace Seal Replace with repair kit KK-5001-1 and refer to Air Motor Agitator lubrication instructions
Coating material tends to settle out rapidly	Not enough agitation	Increase Agitator speed
Air bubbles form in coating material	Material being over agitated	Slow down agitator speed

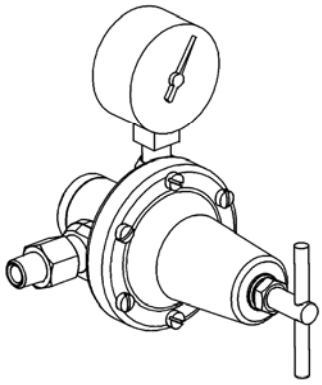
Note: Occasionally check gauge (Ref. No. 9). The needle should return to zero with no pressure on the gauge.

ACCESSORIES

PT-78-K10 & PT-78-K60 Liner.
A moulded polyethylene tank liner to reduce tank clean up time. The liner is made of tough, durable, leak proof polyethylene and can be re-used. May be used with all materials that are compatible with polyethylene. (Available in packages of 10 and 60 only.)



PT-413 Air Regulator Kit.
Used to convert single regulated tanks (fluid only), to dual regulation (fluid and air). Used with portable air compressors or with air lines when no other means (air transformers or regulators) of air pressure regulation is available.

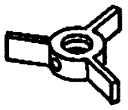


Ball Valves.
To add a Ball valve to the Air Inlet, remove Nipple (ref. No. 29). Replace with Ball Valve VA-5432-K (NPS) or VA-5427-K (BSP).

VA-527 S.S. fluid outlet shut-off valve. To install, remove the adapter (Ref. No. 16), replace with Ball valve (taper thread to regulator).

Using these valves will simplify attachment of air and fluid hoses.

QMS-79 Optional Propeller.
Used with light viscosity or waterborne materials where over-agitation may be a problem.



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