

## Operation Manual: QMSG Waterborne Pressure Feed Tanks

SB-E-21-063



### Important:

Read and follow all instructions and SAFETY PRECAUTIONS before using this equipment.

### DESCRIPTION

Galvanised steel shell and stainless steel lid pressure feed tanks for the supply of coating material at a constant pressure. The tanks are equipped with a regulator, pressure gauge, safety valve, pressure relief valve, air and coating material valves, a disposable tank liner and a choice of no agitator, hand agitator or air motor driven agitator.

**IMPORTANT:** These pressure feed tanks are designed for use with highly corrosive or highly abrasive coating material only when used with the disposable liners.

### MODELS

- QMSG-5210 9 litre pressure feed tank with no agitator.
- QMSG-5212 9 litre pressure feed tank with hand agitator.
- QMSG-5216 9 litre pressure feed tank with Ram air motor agitator.
- QMSG-5510 30 litre pressure feed tank with no agitator.
- QMSG-5512 30 litre pressure feed tank with hand agitator.
- QMSG-5516 30 litre pressure feed tank with Ram air motor agitator.

**Note:** Add thread code to the Model No. for the hose connection thread required.

**Example:** QMSG-551 2-B

<b>Model No.</b>	QMSG-551	2	B	<b>Thread Code</b>
				B = BSP
				N = NPS
<b>Tank size</b>		<b>Type of agitation</b>		
2 = 9 Ltr		0 = None		
5 = 30 Ltr		2 = Hand		
		6 = Air motor		

### SPECIFICATIONS

**MAXIMUM WORKING PRESSURE:** 3.8 bar (55 lbf/in<sup>2</sup>).

**MAXIMUM AIR SUPPLY PRESSURE:** 17 bar (250 lbf/in<sup>2</sup>).

#### HOSE CONNECTIONS

Thread code:	<b>'B'</b>	<b>'N'</b>
Air inlet:	1/4" BSP	1/4" NPS
Air outlet:	1/4" BSP	1/4" NPS
Coating material outlet:	3/8" BSP	3/8" NPS

#### Materials in contact with coating material

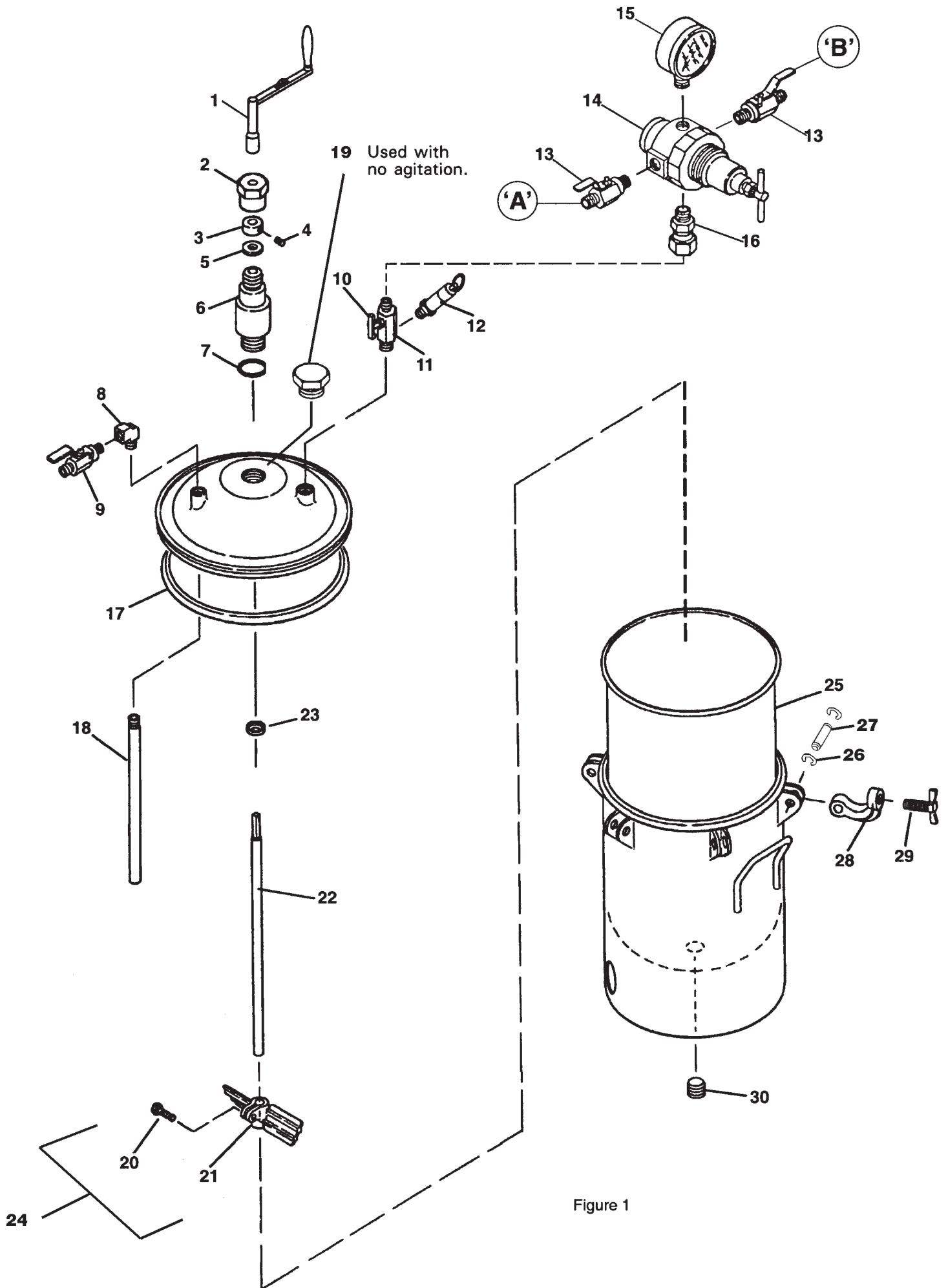
Tank shell:	Steel, galvanised
Tank lid:	Stainless steel
Agitator shaft and seal retainer:	Stainless steel
Coating material tube:	Stainless steel
Air manifold and plug:	Steel, Zinc plated
Bottom outlet plug:	Steel, galvanised
Agitator blades:	Nylon
Lid gasket:	Neoprene rubber
Disposable tank liner:	Polyethylene

#### WEIGHT

QMSG-5210: 16.5 kg (36 lb)	QMSG-5212: 19.5kg (43lb)	QMSG-5216: 27kg (59 lb)
QMSG-5510: 36 kg (36 lb)	QMSG-5212: 39kg (86 lb)	QMSG-5216: 46.5kg (103 lb)

#### DIMENSIONS

<b>Internal tank size</b>	<b>9 litre</b>	<b>30 litre</b>
Diameter:	241 mm (9 1/2")	356 mm (14")
height at centre:	241 mm (9 1/2")	406 mm (16")
<b>Overall Size</b>		
Width:	340 mm (13 3/8")	470 mm (18 1/2")
Height:	350 mm (13 13/16")	516 mm (20 5/8")



## PARTS LIST

REF.	ORDER No.						DESCRIPTION	QTY.
	QMSG-5210	QMSG-5212	QMSG-5216	QMSG-5510	QMSG-5512	QMSG-5516		
1	----	QM-142	----	----	QM-142	----	Handle	1
2	----	QMS-46	QMS-46	----	QMS-46	QMS-46	Nut	1
3	----	QM-1770	QM-1770	----	QM-1770	QM-1770	Collar	1
4	----	SS-559	SS-559	----	SS-559	SS-559	Screw	1
5	----	QMG-51	QMG-51	----	QMG-51	QMG-51	Washer	1
6	----	QMS-407	QMS-407	----	QMS-407	QMS-407	Bearing	1
7	SSG-8184-K2	SSG-8184-K2	SSG-5184-K2	SSG-8184-K2	SSG-8184-K2	SSG-8184-K2	'O' ring	1
8	SSP-1939	SSP-1939	SSP-1939	SSP-1939	SSP-1939	SSP-1939	Elbow - STS	1
9	VA-527	VA-527	VA-527	VA-527	VA-527	VA-527	Ball valve-NPS	1
10	SS-2705	SS-2705	SS-2705	SS-2705	SS-2705	SS-2705	Valve	1
11	QMG-21	QMG-21	QMG-21	QMG-21	QMG-21	QMG-21	Manifold	1
12	MA-TI-533	MA-TI-533	MA-TI-533	MA-TI-533	MA-TI-533	MA-TI-533	Safety valve	1
13	VA-5432 VA-5426	VA-5432 VA-5426	VA-5432 VA-5426	VA-5432 VA-5426	VA-5432 VA-5426	VA-5432 VA-5426	Valve BSP Valve NPS	2
14	HAR-502	HAR-502	HAR-502	HAR-502	HAR-502	HAR-502	Regulator assy	1
15	RC-41	RC-41	RC-41	RC-41	RC-41	RC-41	Gauge	1
16	SSP-8217-ZN	SSP-8217-ZN	SP-8217-ZN	SSP-8217-ZN	SSP-8217-ZN	SSP-8217-ZN	Connector	1
17	QMS-80-1	QMS-80-1	QMS-80-1	PQ-5	PQ-5	PQ-5	Lid Gasket	1
18	QMS-53-1	QMS-53-1	QMS-53-1	QMS-10-1	QMS-10-1	QMS-10-1	Tube	1
19	QMS-2	----	----	QMS-3	----	----	Plug	1
20	----			----			Screw	1
21	----			----			Paddle	1
22	----	QMS-5	QMS-5	----	QMS-6	QMS-6	Agitator Shaft	1
23	----	KK-5042	KK-5042	----	KK-5042	KK-5042	Seal Kit	1
24	----	QMS-449	QMS-449	----	QMS-444	QMS-444	Paddle inc 20 & 21	1
25	PT-52-K10	PT-52-K10	PT-52-K10	PTL-406-K20	PTL-406-K20	PTL-406-K20	Disposable liner	1
26				PQ-314	PQ-314	PQ-314	Pin	5
27				SST-8413-ZN	SST-8413-ZN	SST-8413-ZN	Circlip	10
28				PQ-312	PQ-312	PQ-312	Clamp	5
29				2570-71	2570-71	2570-71	Clamp screw	5
30				SPS-1232-AG	SPS-1232-AG	SPS-1232-AG	Plug	1
31	----	----	7300-509	----	----	7300-509	Ram air motor	1

## INSTALLATION

**IMPORTANT:** To ensure that this equipment reaches you in first class condition, protective coatings, rust inhibitors, etc., have been used. Flush all equipment through with a suitable solvent before use to remove these agents from the material passages.

1. Connect clean dry air supply to air inlet valve 'A' on the regulator.

Note: Check the direction of airflow by the arrows on the regulator body.

2. Attach spray gun coating material hose to valve (9).

**Note:** Regulator outlet valve 'B' can be used to connect spray gun from a regulated air supply.

# SAFETY WARNINGS

## FIRE AND EXPLOSION

Solvents and coating materials can be highly flammable or combustible, especially when sprayed.

- Work stations must be provided with adequate ventilation/exhaust to prevent the build-up of flammable vapours.
- Smoking and naked flames must not be allowed in the spraying or mixing areas.
- Fire extinguishing equipment must be provided in the spraying and mixing areas.

Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation, maintenance and housekeeping of work stations.

HALOGENATED HYDROCARBON SOLVENTS - for example 1,1,1-Trichloroethane and Methylene Chloride can chemically react with aluminium and galvanised or zinc coated parts and cause an explosion hazard. Read the label and data sheet of the material you intend to spray.

DO NOT USE SOLVENTS OR COATING MATERIALS CONTAINING HALOGENATED HYDROCARBONS WITH THIS EQUIPMENT.

The safety valve protects the tank from over pressurisation, during each use, pull the ring on the valve to make sure that it operates freely and relieves pressure. If it does not operate freely or relieve pressure it must be replaced.

STATIC ELECTRICITY - is generated by fluid moving through pipes and hoses. A static spark, capable of igniting certain solvents and coating materials, could be produced by high fluid flow rates. To prevent the risk of fire or explosion, earth continuity to the spray equipment and object being sprayed should be maintained.

## PERSONAL PROTECTIVE EQUIPMENT

TOXIC VAPOURS - when sprayed, certain materials may be poisonous, create irritation or otherwise be harmful to health. Always read carefully all labels and safety/performance data for the material being sprayed and follow any recommendations. IF IN DOUBT, CONSULT THE MATERIAL SUPPLIER.

- The use of respiratory protective equipment is recommended at all times when spraying. The type of respiratory protective equipment used must be compatible with the material being sprayed and the level of concentration.
- Always wear eye protection when spraying or cleaning the equipment.
- Gloves must be worn for spraying or cleaning the equipment when certain coating materials and solvents are used.

## TRAINING

Personnel should be given adequate training in the safe use and maintenance of this equipment. Training courses on all aspects of the equipment are available. For details contact your local representative. The instructions and safety precautions contained in this literature and the literature supplied with the coating material should be read and understood before the equipment is used.

## MISUSE

- Never exceed the recommended safe working pressures for any of the equipment used.
- The fitting of non-recommended or non-original accessories or spare parts may create hazardous conditions.
- Before dismantling the equipment for cleaning or maintenance, all pressures, air and material, must be isolated and released.

Never weld, drill into or modify the pressure feed tank in any way.

Do not adjust, remove or tamper with the safety valve. If a replacement is necessary, use the same type and pressure rating of the original valve.

The disposal of non-metallic materials must be carried out in an approved manner. Burning may generate toxic fumes. The removal of waste solvents and coating materials should be carried out by an authorised local waste disposal service.

## OPERATION

**Caution:** Pressure is maintained in the tank after air supply is isolated. Before removing the lid or dismantling equipment relieve the system pressure. Turn off air supplies and open tank relief valve (10).

Mix, prepare and filter coating material according to the manufacturers instructions.

1. Close regulator inlet and outlet valves 'A & B' on tank. Turn regulator handle (14) counter-clockwise until spring tension is relieved. Open relief valve (10) by turning counter-clockwise.
2. Release screws and clamps (28, 29). Remove lid insert new liner and fill tank.
3. Replace lid and tighten screws (29) securely. Close relief valve (10) by turning clockwise.
4. Turn on air supply to tank and open regulator inlet valve 'A'.
5. Adjust regulator (14) to the desired pressure. Turning handle clockwise increases pressure, counter-clockwise reduces pressure.

**Note:** The regulator is self-relieving and air exhausts from ports in the regulator's cap when reducing the tank pressure.

6. Open coating material valve (9) and turn on air supply to spray gun.
7. To agitate coating material turn handle (1) slowly clockwise.

**Note:** For air motor drive see Accessories.

## PREVENTIVE MAINTENANCE

**Caution:** Pressure is maintained in the tank after air supply is isolated. Before removing the lid or dismantling equipment relieve the system pressure. Turn off air supplies and open tank relief valve (10).

Regularly check the safety valve (12) and relief valve (10) are operating correctly, and the pressure gauge (15) needle returns to zero when the tank pressure has been relieved. If any of these parts are faulty replace immediately.

### CLEANING

1. Turn off regulator air inlet and outlet valves 'A & B'. Open relief valve (10) by turning counter-clockwise and wait until all air pressure has escaped from the tank.
2. Turn regulator handle (14) counter-clockwise until spring tension is relieved. Close valve (9), release screws and clamps (28, 29) and remove lid assembly.
3. Remove coating material from tank, or remove liner, and clean parts that have come in contact with the coating material.  
Check the relief valve (10) and safety valve (12) are clean.
4. To clean tube (18), hose and gun passages. Pour a small quantity of compatible solvent into the tank, replace lid assembly, clamps and tighten screws (29) securely.
5. Close relief valve (10) and turn on air supply valve 'A'. Adjust regulator (14) to a low pressure, open valve (9) and trigger spray gun. Allow solvent to flow until clean.

**Note:** Spray gun atomising air supply should be turned off when cleaning with solvent.

6. Repeat steps 1, 2 and 3 and replace lid assembly. Leave relief valve (10) open when not in use.

## REPLACEMENT OF PARTS SEE FIGURE 1

**Note:** To ensure leak tight fitting when replacing any air or coating material connections use PTFE tape or sealing compound.

Replacing regulator (14) see figure 1. The arrows on the regulator body indicate the direction of flow through the regulator, (inlet 'outlet'). Air inlet valve 'A' should be on the left when viewed from the front.

## SERVICE CHECKS

CONDITION	CAUSE	CORRECTION
1 Air leaking continuously from port in regulator cap.	Broken or damaged regulator diaphragm.	Replace diaphragm, see operation manual SB-6-162
2 Tank pressure continues to increase after regulator has been adjusted.	Dirty or worn regulator valve seat.	Clean or replace valve seat, see operation manual SB-6-162
3 Air or coating material leaks at lid gasket.	Clamp screws (29) not tight. Damaged gasket (17) or disposable liner rim (25).	Tighten. Replace.
4 Air leaks at agitator shaft.	Damaged or worn bearing or seals (6, 7, 23).	Replace.
5 Coating material getting into agitator bearing (6).	Coating material level too high. Damaged or worn seal (23).	Do not fill tank above agitator seal. Replace.
6 Coating material rapidly settles out.	Not enough agitation.	Increase agitation.
7 Air mixing with coating material.	Excessive agitation. Tube (18) to lid joint not sealing properly.	Reduce agitation. Tighten or reseal joint.

## ACCESSORIES

**Order No. 7300-509 Reciprocating air motor kit.** Mounts on pressure feed tank and moves agitator shaft continuously back and forth keeping the coating material thoroughly mixed.

**Order No. QMG-446-B Tank bottom outlet kit.** Contains all the fittings required to convert the tank for bottom outlet.

= 3/4" BSP,

**Coating material filters:**

**Order No. VS-522** 3/8" BSP. Primary filter that attaches between the tank outlet valve and hose.

**VS-521** 3/8" NPS. Manufactured from nickel plated brass with a 150 micron nylon filter.

# NOTES

ITW Finishing Systems and Products  
Ringwood Road,  
Bournemouth,  
BH11 9LH,  
England.  
Tel. No. (01202) 571111  
Telefax No. (01202) 581940,  
Website address <http://www.itweuropeanfinishing.com>

ITW Oberflächentechnik GmbH & Co. KG  
Justus-von-Liebig-Straße 31  
63128 Dietzenbach  
Tel (060 74) 403-1  
Telefax: (060 74) 403300  
Website address <http://www.itw-finishing.de>

ITW Surfaces Et Finitions  
163-171 avenue des Auréats B.P. 1453  
26014 VALENCE CEDEX FRANCE  
Tél. (33) 475-75-27-00  
Télex 345 719F DVILBIS  
Téléfax: (33) 475-75-27-99

ITW Finishing Systems and Products is a Division of ITW Ltd. Reg. Office:  
Admiral House,  
St Leonard's Road,  
Windsor,  
Berkshire,  
SL4 3BL,  
UK  
Registered in England: No 559693 Vat No 619 5461 24