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Quenchmaster CP500

MODEL: 2 Valves with ON/OFF Valve

MANUAL
FOR
INSTALLATION
OPERATION
MAINTENANCE
SPARE PARTS

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QUENCHMASTER CP 500RFS

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GAAM Emergency Products

ABN 80 008 399 004

Limited Warranty

Products are warranted to be free of defects resulting from faulty materials and workmanship for a period of 12 months, (a) in the case of goods, from faulty the day the goods are delivered or are deemed to have been delivered in accordance with the clause 5, and (b) in the case of provision of services, from the day on which the relevant service is completed.

The company will not admit any liability whatsoever or howsoever arising which exceeds the cost of replacement of the products or performance of services and shall not be liable in any event in any way whatsoever for any contingent consequential direct indirect special or punitive damages arising in any way whatsoever in relation thereto, and the Purchaser acknowledges this express limitation of liability and agrees to limit any claim by it accordingly. No other term condition, agreement, warranty, representation or understanding whatsoever whether express or implied in any way extending to or otherwise relating to or binding on the Company with respect to the products or services other than these terms and any other terms by which the Company agrees to be sound in writing, is made or given. Any condition term or warranty which might otherwise be implied under law of Australia is hereby expressly negative insofar as it lawfully can be.

The Company must be advised of any defect within one week of the defect becoming known. Unless otherwise arranged, the item of equipment or individual parts thereof (as the case may be) shall be sent to the Company carriage prepaid and at the Purchaser's risk. Replacement items of equipment and parts shall become the property of the Company.

The Company shall in no way be liable for damage to products due to normal wear and tear, or to improper use or abuse, nor shall the Company be liable in any way for any losses, damages or costs of any kind occurring or incurred outside the Company's factory.

The Company shall be relieved of any liability should the Purchaser, without the Company's authority in writing, make any attempt to repair, adjust, improve or otherwise interfere with the products or the working thereof. Any such action shall cause all warranties and conditions in respect of the products to become null and void. Equipment and accessories furnished by third parties are not guaranteed by the Company, and no term condition, agreement, warranty, representation of understanding is given or shall be implied in relation thereto.

QUENCHMASTER FOAM SYSTEMS INTRODUCTION

GENERAL DESCRIPTION

The range of Quenchmaster systems are designed to dispense both Class 'A' and Class 'B' foams.

The foam system is connected to the fire fighting pump and includes the following:- the proportioner, foam on/off valve(optional), a 'Y' type strainer (optional) and the foam concentrate.

Water is delivered from the Discharge side of the pump into the proportioner and metered across a venturi, this causes a negative vacuum, foam is then drawn through the proportioner, mixes with the water, and then returns to the pump inlet, and then the foam mixture is delivered to the fire fighting hoses.

Proportioner:- This device contains 2 valves to control the supply of foam concentrate to the pump. The left hand valve selects the class of foam (Class 'A' or Class 'B') to be used. The right hand (metering) valve selects to percentage (%) of foam to be added to the water.



Note: BFFF is Class 'A' foam. AFFF and ATC are Class 'B' foams.

Foam On/Off Valve (Optional):- Located on the discharge side of the pump, after the ‘Y’ strainer. ‘Foam ON’ position allows water to pass from the pump to the foam proportioner to operate the proportioner. ‘Foam Off’ position (or ‘Tank Recirc.’) allows water to circulate from the pump back to the water tank to keep the pump cool during standby periods when the pump is in operation.



‘Y’ type Strainer (Optional):- Located on the side of the pump near the discharge flange. Its main function is to filter the water that passes from the pump to the proportioner to protect the proportioner from becoming blocked and therefore unable to supply foam to the nozzle. It also protects the pump bypass from similar blockage that can cause pump overheating. This should be cleaned on a weekly basis.



Foam Concentrate:- Normally stored in 20 litre plastic drums that are mounted near the foam proportioning system. Foam is drawn out of the drum by a probe and hose that is fitted to the cap of drum. This cap should be opened $\frac{3}{4}$ to 1 full turn when foam is required and closed when travelling. (Where foam tanks are fitted to the tanker, the tank may have a vented filled cap that does not need to be unscrewed.)

QUENCHMASTER FOAM SYSTEM OPERATION

PROPORTIONER OPERATING PROCEDURE

To supply foam (when drawing water from water tank or static supply)

Open the cap on the foam drum $\frac{3}{4}$ to 1 full turn.

Start the pump and set the pressure at greater than 600kPa. (700 kPa. is optimum) **Do not exceed 1000 kPa.**

Open nozzle/branch to provide water flow through pump and proportioner.

Check class of foam to be used is selected.

Turn Foam On/Off valve On. (if fitted)

Select percentage of foam required to suit type/class of fire.

To shut-down foam

With water discharging from a nozzle/branch, set Foam Metering Valve percentage selector to Off.

Allow a 15- 20 secs. of water to pass through the pump then close the Foam On/Off valve (if fitted).

Close the cap on the foam drum (if no more foam required).

To flush foam system

Set foam percentage selector to zero.

Start the pump and set pressure at greater than 400 kPa.

Turn foam On/Off valve to On.

Discharge water through the hoses used until discharged water is free of foam.

Turn foam On/Off valve Off.

Shut down the pump.

If foam entered the tank during any fire fighting operation, flush the water tank until free of foam.

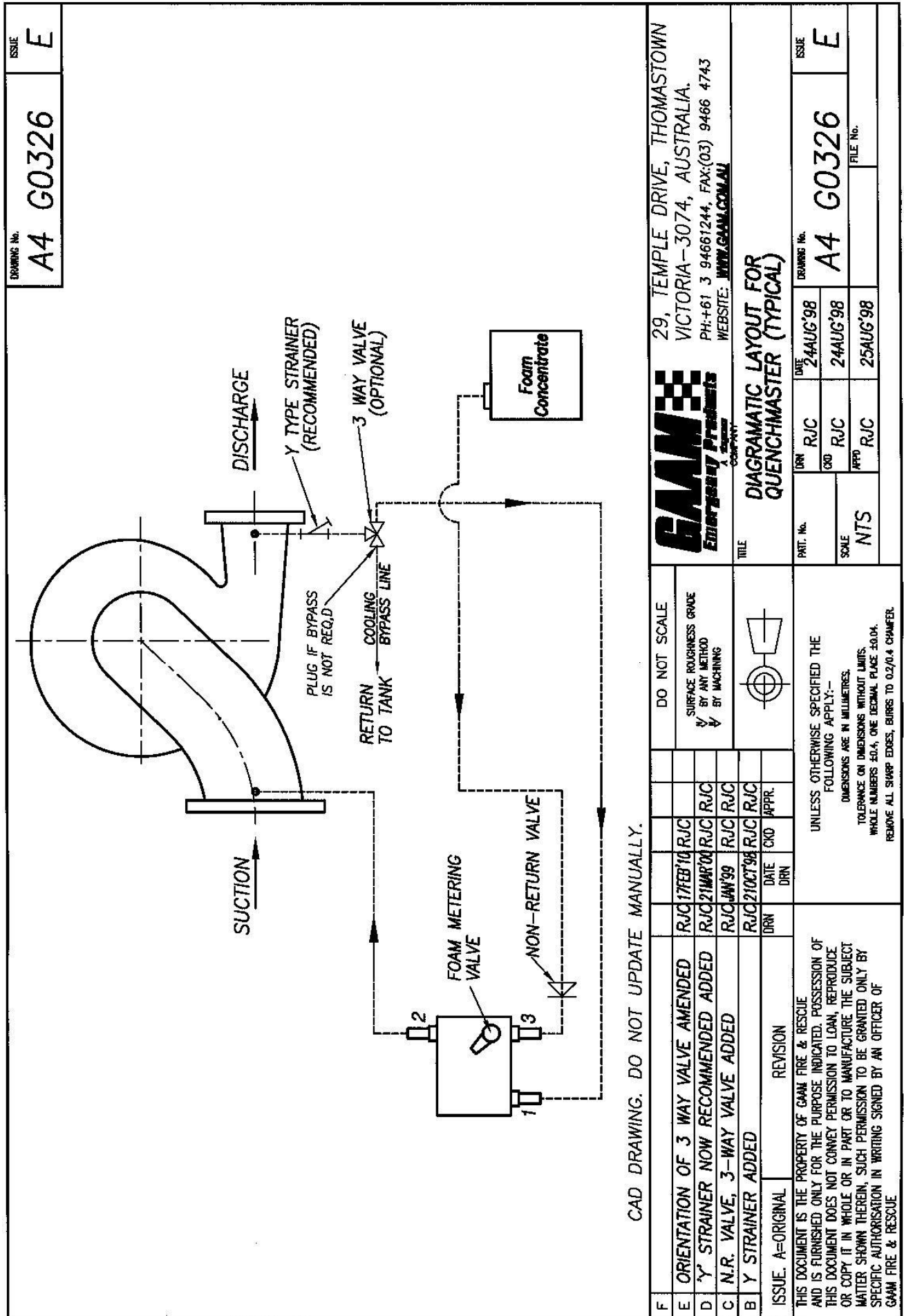
NOTES & SUGGESTIONS

BFFF is Class 'A' foam. AFFF and ATC are Class 'B' foams.

Never exceed 1000 kPa. Pump pressure whilst operating Quenchmaster unit

Clean 'Y' strainer regularly. This means after each fire (or shift at a major fire) when water is drawn from a dirty creek or dam and at least monthly when town water is used. A blocked 'Y' strainer can cause the pump to overheat or the foam system to fail to operate. To clean, undo the hexagon cap and carefully remove the mesh screen. Flush with clean water, Replace carefully. Do not over-tighten the cap when refitting.

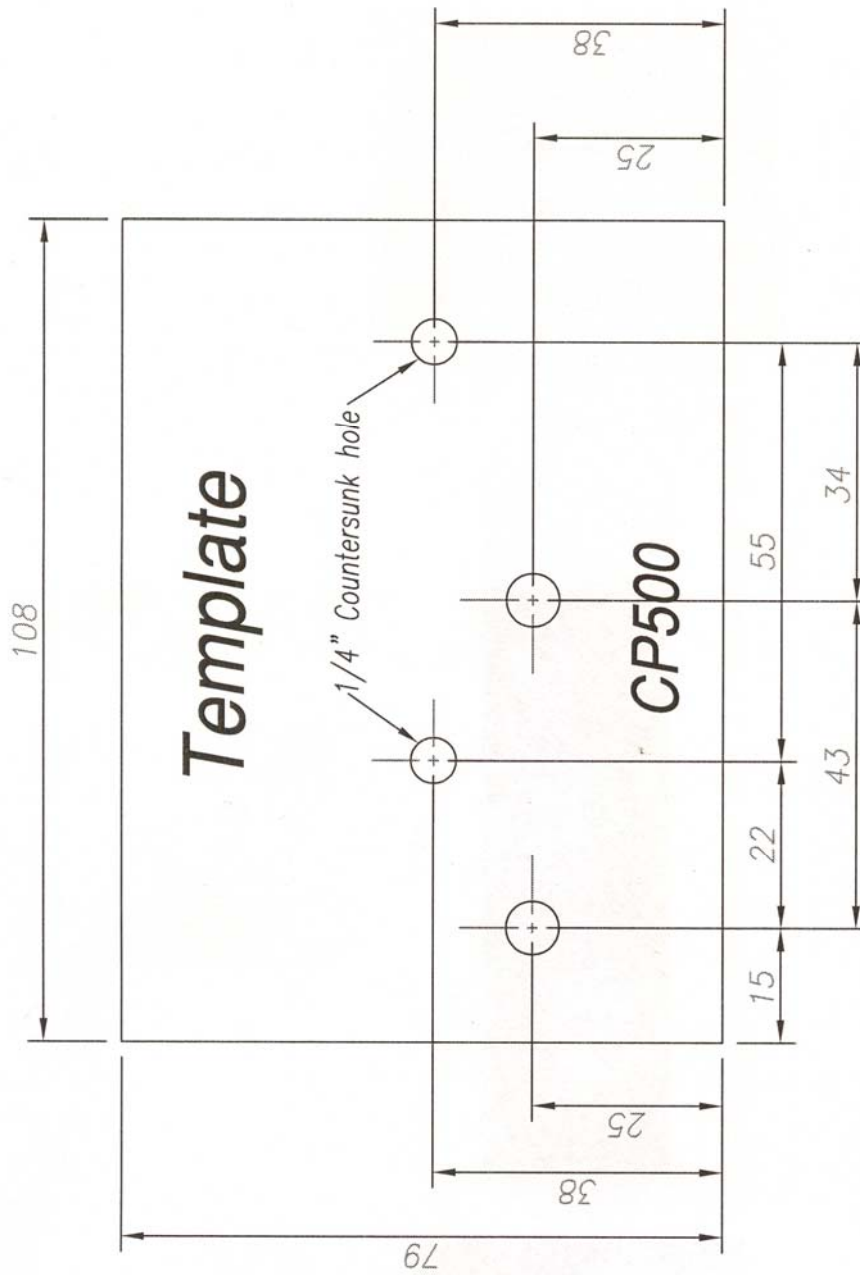
General Arrangement of Quenchmaster with the Pumpsets



DRAWING No. **A4 G0326**
 ISSUE **E**

DO NOT SCALE	SURFACE ROUGHNESS GRADE ✓ BY ANY METHOD ✓ BY MACHING	
	UNLESS OTHERWISE SPECIFIED THE FOLLOWING APPLY:- DIMENSIONS ARE IN MILLIMETRES. TOLERANCE ON DIMENSIONS WITHOUT UNITS: WHOLE NUMBERS ±0.4, ONE DECIMAL PLACE ±0.04. REMOVE ALL SHARP EDGES, BURRS TO 0.2/0.4 CHAMFER.	
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ISSUE: A=ORIGINAL	DATE: 21 OCT 98	DRN: RJC
B Y STRAINER ADDED	DATE: 01 JAN 99	DRN: RJC
C N.R. VALVE, 3-WAY VALVE ADDED	DATE: 21 MAR 00	DRN: RJC
D Y STRAINER NOW RECOMMENDED ADDED	DATE: 17 FEB 10	DRN: RJC
E ORIENTATION OF 3 WAY VALVE AMENDED	DATE: 24 AUG 98	DRN: RJC
CAD DRAWING. DO NOT UPDATE MANUALLY.		
GAAM Emergency Products COMPANY 29, TEMPLE DRIVE, THOMASTOWN VICTORIA-3074, AUSTRALIA. PH:+61 3 94661244, FAX:(03) 9466 4743 WEBSITE: WWW.GAAM.COM.AU		
TITLE: DIAGRAMATIC LAYOUT FOR QUENCHMASTER (TYPICAL)		
PART. No.	DATE	DRAWING No.
NTS	25AUG'98	A4 G0326
SCALE	24AUG'98	ISSUE
RJC	RJC	E
RJC	RJC	FILE No.
RJC	RJC	FILE No.

5.0 Quenchmaster CP500 Template



SPARE PARTS

QUENCHMASTER CP500

Sr. No.	Part Number	Part Description	Quantity	Material
1	GA 9817	3/8" Mini Ball Valve	2	Brass
2	GAG0345	Face Plate CP500	1	Poly Plastic
3	GA9843	Spacer Quenchmaster, All models	2	S.Steel
4	GA9813	Sticker, Quenchmaster	1	Paper
5	GA9814	Non- Return Valve 1/2" York	1	Brass
6	GA9816	Y – Strainer 1/2" TS1070	1	Brass
7	GAG0721	Filter for Y - Strainer	1	Stainless Steel
8	GAG0366	Bracket for Foam ON/OFF valve	1	Aluminium
9	GA9956	Label Sticker on Tank Recirculation	1	Paper

KIT				
SR. NO.	PART NUMBER	DESCRIPTION	QUANTITY	MATERIAL
1	GA9857	Ratchet Clip 13mm	1	Poly
2	GA9859	Director 13mm	1	Poly
3	GA9861	Elbow – 13mm	1	Poly
4	GA9887	Hose Barb 3/8" x 1/2"	2	Brass
5	GA9886	Elbow M/F 3/8"	1	Brass
6	GA9888	Nipple 3/8" x 1/2 "	1	Brass
7	GA9898	Hose 1/2" H.P. – 1 m	1	Poly
8	GA9899	Hose 1/2" – 380 mm	1	Poly
9	GA9889	Hose Clips 13-20mm	6	Steel

QUENCHMASTER

FIRE FIGHTING FOAM PROPORTIONING SYSTEMS

FITTING INSTRUCTIONS

MODEL CP500RFS VALVE

IMPORTANT

For this system to operate correctly, it is essential that it be installed strictly in accordance with these fitting instructions. Should any difficulties be experienced, contact the manufacturer on (03) 9466 1244 Fax (03) 9466 4743.

For Diagrammatic layout see attached Dwg. A4G0326.

Disconnect both the compound and pressure gauge hoses and throttle cable from the pump engine, unplug wiring harness at rear of control panel and remove control panel from appliance.

Remove control panel cover.

Mark and drill a 20 mm dia. Hole in the control panel, 40 mm to the left of the existing hole.

Remove the metering valve knobs from the foam unit and locate the foam unit inside the control panel with the metering valve stems protruding through the holes. It may be necessary to extend the holes towards the lower edge of the control panel to ensure that the bottom of the unit rests on the return fold to allow the unit to seat against the face of the control panel.

Place the template supplied over the metering valve stems, with the bottom of the template level with the lower edge of the control panel and mark the location of the two 1/4" holes on the control panel face..

Remove the template and foam unit.

Drill out the marked holes, using a 1/4" drill..

Countersink both holes to a sufficient depth, so that the heads of the bolts supplied are level with the surface of the panel.

Replace the foam unit inside the control panel and mark on the unit the position of the two holes.

Drill two holes thru the foam unit at the position marked, using a 6 mm drill.

Secure the foam unit to the inside of the control panel, using the two M5 x 50 mm long C/Sunk bolts and nuts provided.

Drill one 21 mm hole in the rear of the control panel, directly in line with the tail piece of the foam unit, and fit the rubber grommet provided.

Place the control panel in its original position on the appliance tray, and mark the position of the No. 1 and 3 outlets on the tray.

Drill two 25 mm holes in the tray at these locations.

Bolt the control panel to the tray and screw on the non-return valve to outlet marked (3).

Reconnect the compound and pressure gauges and the throttle cable.

Drill a 15 mm (19/32") hole in the pump discharge outlet at a suitable location.

Tap to 3/8" BSP and screw in the 1/2" x 3/8" reducing nipple, using a suitable thread sealer.

Fit the 'Y' strainer, ensuring that the flow is in the correct direction, using a suitable thread sealer.

Install the foam 'ON/OFF' valve, using a suitable thread sealer, so that the face plate faces the pump operator.

Screw in a 3/8" tail piece to the lower outlet of the foam 'ON/OFF' valve using teflon tape.

Connect the by-pass cooling line to the remaining outlet of the foam valve.

Drill a 15 mm (19/32") hole in the pump suction inlet at a suitable location.

Important: Tap to 3/8" B.S.P. thread and fit 3/8" brass tailpiece, using teflon tape.

Drill a 25 mm hole in the tray deck immediately below the foam 'ON/OFF' valve.

Cut to length and clamp 13 mm hose from the foam 'ON/OFF' valve tailpiece, passing the hose through the hole in the deck to tailpiece marked (1) on the foam unit.

Cut to length and clamp 13 mm hose from pump suction inlet tailpiece, passing the hose through the hole and grommet in the control panel, to tailpiece marked (2) on the foam unit.

Secure a suitable foam pail bracket on the appliance.

Drill a 12 mm hole in a foam container cap and press the 13 mm P.V.C. elbow through the hole.

Attach the pick up tube to elbow and clamp with P.V.C. clip.

Cut 13 mm hose to length and attach to elbow and clamp.

Attach other end to tailpiece marked (3) Foam metering valve on the foam unit.

Remove the protective covering from the 'Scotch' tape on the back of the face plate.

Place the face plate over the metering valve spindles and carefully aligning the lower edge of the face plate with the bottom edge of the control panel, press into place.

NOTE Accuracy is essential in locating the face plate on the control panel.

Place the metering valve knobs on the valve stems, ensuring that the brass spacer washers are retained and secure with the screws supplied.

FITTING INSTRUCTIONS

MODEL CP500 2V/FV/Y

NOTES

If the operation of this foam Proportioner requires any lengthy period of nozzle shut-down, a full flow check valve should be installed in the suction line, to prevent any possibility of back flow of foam mixture into the water tank.

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FIRE FIGHTING FOAM PROPORTIONING SYSTEMS

OPERATING INSTRUCTIONS

MODEL CP500
CONTROL PANEL MOUNT

Allow free entry of air into the foam container.

Prime and start the pump.

Adjust the throttle to run the pump at a suitable pressure (600 to 1000 kPa is recommended) and open a delivery valve to allow water to flow.

Turn pump by-pass isolation valve (if fitted) to 'OFF'.

Open the pump pressure delivery valve to allow water to flow to the foam control unit.

When operating on mains supply, restrict the incoming flow so there is a reading on the compound gauge at or near "O" and no higher than +50 kPa.

Set the foam selection valve to Class A or Class B.

Set metering valve to the appropriate setting.

Fine-tune both the foam selection valve and the foam-metering valve to select the most suitable premix solution.

On completion of fire fighting operations requiring the use of foam, set metering valve to 'OFF' and flush pump and hoses until all foam solution is expelled.

Close pump pressure delivery valve and re-open by-pass isolation valve.

Reseal foam container.

QUENCHMASTER

FIRE FIGHTING FOAM PROPORTIONING SYSTEMS

MAINTENANCE INFORMATION

All equipment must be flushed with clean water after use.

Clean up any spill of foam concentrate by washing down with clean water.

Tighten all hose clamps regularly to ensure that no air leaks exist.

Periodically check the metering valve knob for tightness.

Do not over tighten.

QUENCHMASTER

FIRE FIGHTING FOAM PROPORTIONING SYSTEMS

OPERATING INFORMATION

Operators of **QUENCHMASTER** Foam Proportioning Units should be aware that if delivery nozzles are shut down for any prolonged period, the metering valve on the Control Unit should be set to the 'OFF' position.

This is necessary to prevent the foam solution from being drawn into the system during the shut down period. Whilst the amount of foam concentrate used during the period of shut down is minimal, it is good policy to adopt this procedure at all times.

Delivery nozzles should be opened regularly to allow the foam solution to flow for a short period, to ensure that overheating of the pump does not occur.

QUENCHMASTER

FIRE FIGHTING FOAM PROPORTIONING SYSTEMS

APPLICATION RATIOS

APPLICATION	FOAM RATIO
MOP UP	0.1% TO 0.25%
INITIAL SUPPRESSION	0.25% TO 0.5%
BACK BURNING	0.5% TO 0.75%
EXPOSURE PROTECTION AND STRUCTURAL ATTACK	0.75% TO 1.0%

QUENCHMASTER Foam Systems are manufactured by



A **tyco** COMPANY



Quality
ISO 9001

SAI GLOBAL

29 Temple Drive, THOMASTOWN VIC – 3074

PHONE (03) 9466 1244

FAX (03) 9466 4743



A **tyco** COMPANY

Certificate No: GAAM 0055

Quenchmaster Foam Proportioner Certification

GAAM Emergency Products hereby certify that the Quenchmaster CP 500 has an accuracy of $\pm 10\%$ when run at 700kPa at flows up to 400 lpm, when used with class 'A' (0.1% to 1.0%), AFFF (1%, 3% & 6%) and class 'B' (3% to 6%) foams. The unit is calibrated to use a foam concentrate that has a Specific Gravity of 1.02 at a temperature of 20°C

Regards

A handwritten signature in black ink that reads "Jatinder Singh".

JATINDER SINGH
ENGINEER