

Procurement, maintenance and training in the use of QT34 wet bulb globe temperature (WBGT) monitor

General

1. **QuestTemp 34 (QT34) – Single Approved WBGT Monitor.** The QT34 (NSN 6685-99-665-9590) is the only monitor approved by Defence for measuring WBGT indices. Where a QT34 is not available, other WBGT monitors are not to be used. However, Meteorological Office Planning Forecasts may provide an alternative source of information on which to plan an exercise or work routine¹. Work is underway to identify a more portable and deployable alternative to the QT34, but none match the QT34 for accuracy and, until this work has concluded, only the QT34 is to be used.

Procurement, Calibration and Repair

2. Procurement.

a. All Units, Stations, establishments and equivalent **must** make sure that they hold QT34 monitors in accordance with the authorised holdings specified in their equipment tables.

b. Where organisations identify the requirement to hold more QT34 monitors than they are authorised to hold, they are to secure approval to increase their holdings in accordance with the Military commands or Defence organisations direction below. Prior to procuring new monitors, organisations **should** consult their chain of command, neighbouring organisations and Military commands points of contact to take advantage of any opportunities for cross issuing/loaning. Once authorised to hold additional QT34, equipment tables **should** be updated accordingly:

(1) **Royal Navy.** Navy establishments or platforms requiring new QT34 monitors **should** contact NAVYLOGINFRA-LOGSPTCOM@mod.gov.uk.

¹ For planned activity this can be provided anywhere in the world by the Joint Operations Meteorology and Oceanography Centre (JOMOC), www.jomoc.net or referenced in [JSP 465](#).

(2) **Army.** The process for demanding additional QT-34 monitors is by submitting an AFG8088 to Operational Infrastructure Workshop (DE&S) in Portsmouth via the BOWO and ET sponsor. QT-34 procurement requests **must** not be sent through MJDI.² ET tables **must** be altered to reflect new holdings upon procurement.

(3) **RAF.** RAF Stations or units requiring new QT34 **should** submit a justification through their Logistics Squadron (or equivalent), for approval by the Low Value Purchase (LVP) Clerk within Supply, Control and Accounting Flight or Section. A4 Logistic Support Commodities has authorised the LVP of QT34 monitors by Air Command units until further notice and, if satisfied with justification, LVP Clerks are authorised to approve procurement. The point of contact for further advice on WBGT monitors procurement is: A4 SO3 Log Spt Commodities (Air-A4LogSptCommoditiesSO3@mod.gov.uk; 95221 7969).

(4) **UK Strat Com and PJHQ.** In the Joint environment the process for ordering and procuring new devices is no different than the above method. The lead service charged with J4 responsibility for that unit orders the QT-34 devices and respective ancillaries as per their respective services process.

(5) **Other Defence organisations.** All other areas that require a WBGT **should** email DESLEOI-Wksp-PMTH@mod.gov.uk with their requirements and justification.

c. The process to demand ancillaries for the QT34 monitors is to submit an AFG8088 to Operational Infrastructure Workshop (DE&S) in Portsmouth via the BOWO and ET sponsor.³ Ancillaries procurement requests **must** not be sent through MJDI.

(1) Tripod⁴: NSN 6640-01-5311342.

(2) Wick Kit (Pack of 10): NSN 6530-01-5070710.

(3) 25 Foot shielded remote sensor cable 53-925: NSN 6145-01-6245888.

(4) 100 Foot shielded remote sensor cable 53-926: NSN 6150-01-5350598.

² AFG8088 must be signed by both the BOWO and the ET sponsor before submitting to OI Workshop.

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⁴ In accordance with the manufacturer's instructions, the QT34 must be elevated. It should be noted that generic camera tripods will fit the QT34, so other suppliers of this equipment may exist.

3. **Calibration.** WBGT monitors require annual calibration to remain accurate. Calibration is undertaken by Defence Electronics & Components Agency (DECA). It is the responsibility of the holding organisation to ensure that the WBGT remains in date for calibration and it is also their responsibility to contact DECA to request this service. Monitors are to be dispatched to DECA⁵ and accompanied with a MOD Form 1773 'Request for Calibration'. Turn-around time is routinely 14 days from the date DECA receive monitors, but a quicker Urgency of Need can be requested on the Form 1773. For queries relating to items sent for calibration, the DECA Helpdesk can be contacted on: tepl.helpdesk@deca.mod.uk or 01244 847365 / 95541 7365. Wherever possible, organisations **should** arrange for calibration to occur over the cooler months of the year in order to maximise availability of WBGT during the period when risk of thermal stress is highest. Commanders **should** ensure that there are an adequate number of calibrated WBGTs available throughout the year. This can be achieved with a robust and regular calibration programme spread across a 12 month period.

4. **Repair.** In recognition of the importance of the WBGT monitor capability and the current issues around QT-34 WBGT procurement, authorisation is in place for repair to follow the Direct To Repair (DTR) route rather than the normal Planned Repair loop. All requests for DTR are to be emailed to Jo.Snowden@babcock.r.mil.uk. However, units may wish to seek advice by phone (01952 967427) in the first instance. On receipt of DTR requests, organisations will be invited to send the damaged monitor to a designated contractor, allocated by Babcock DSG. Turn-around time for repairs is routinely 30 days but can be much longer where spares **must** be sourced from the US.

Training

5. **Courses.** All training **should** be conducted in accordance with the manufacturer's guidance. Training to operate the QT34 WBGT monitor is provided on the courses below.

- a. RN LPT and RM PTI Training Course.
- b. RAPTCI, AAPTI and Army Reserve PTI Courses.
- c. RAF PTI Phase Two Training course (CN2311).
- d. Common Core Element of RN/Army/RAF Phase 2 Combat Medic Training Courses.
- e. Royal Navy sS Medical Assistant Phase Two Training Course.
- f. Environmental Health Technicians Degree Course.

⁵ Sealand (Bldg 16 Electronic Business Centre, Welsh Road, Sealand, Flintshire, CH5 2LS) UIN: KCUT5.

- g. Joint Team Medic Course (from Aug 2019).
- h. The Combat Health Advisor Course (from Sep 19 – subject to training change activity).
- i. RAMC CMT1 Course (whilst climatic injury prevention is currently taught (incl WBGT), this component is still being formalised within the course through the training change process).

QT 34 Aide Memoire. Attached at Appendix 1 is an aide memoire for the use of the QT34. This is to be printed out and a copy stored with each WBGT. It is intended as a prompt to help trained personnel use the instrument. The aide memoire includes links to guidance videos. These training tools are not a replacement for one of the approved training courses above. They are only to be used as aide memoires for users already trained. All trained personnel are encouraged to review training revision aides annually.

Appendix.

1. Aide memoire: Guide to using the QuestTemp 34 (QT34) wet bulb globe temperature (WBGT) monitor.

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1. The aim of this Aide Memoire is to refresh and revise trained users. A copy **must** be held with each QT34 WBGT monitor. Make sure the wet bulb wick is clean (square box middle sensor). If the wick is discoloured it **should** be replaced. To replace the wick, take the lid off, slide the old wick off and place a new wick over the sensor, making sure the bottom of the wick is down in the reservoir.
2. Fill the wet bulb reservoir with distilled or de-ionised water. Where either of these are not available, clean, bottled water may be used providing the wick is changed more frequently to avoid sediment accumulation.
3. Place the QT34 in the work area, approximately 1.1m above the ground, ideally on a secure and stable tripod, in an open area away from walls or obstructions that could interfere with the readings. The QT34 **must** be in direct sunlight and not shaded in any way unless such a location is representative of where the activity will take place. The positioning of the QT34 **should** be recorded.
4. Press the I/O Enter key to turn on.
5. Check battery. If the battery voltage displayed during the power-on sequence is less than or equal to 6.4 volts, replace or recharge the batteries.
6. Leave on for 10 minutes to allow the sensors to stabilise.
7. Take reading. I/O Enter button to select 'view'. Then scroll up and down using the arrow keys to see the readings. To record them, press the Run/ Stop button: the * symbol on the screen bottom right indicates when it is recording.
8. Record heat stress indices. Make indices available to local commanders, line managers and staff controlling physical activities so that risk assessments can be carried out and appropriate mitigation put in place to reduce the risk of heat illness.
9. Switch off by holding the I/O Enter button.
10. WBGT monitor readings are not to be taken in the rain, as this will affect the heat stress index calculations and potentially give wrong readings. If raining, operators **should** remote the sensor bar and keep the instrument sheltered.

11. Further video guidance is available to **download** on MODnet at the following link:

<https://modgovuk.sharepoint.com/portals/Army-International-Communications/pVid/Forms/Thumbnails.aspx?id=%2Fportals%2FArmy%2DInternational%2DCommunications%2FpVid%2FQT34%20User%20Guide%5FMedium%2Emp4&parent=%2Fportals%2FArmy%2DInternational%2DCommunications%2FpVid>

Or via the Shawcity website:

<https://www.shawcity.co.uk/knowledge-hub/heat-stress>.

And on YouTube via the following QR code:

