

CMRL to adopt new technology to help passengers beat the heat at 3 metro stns

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Chennai: Underground metro stations in North Chennai will adopt a new technology to give commuters a respite from the heat while also saving several thousand litres of water. Chennai Metro Rail Limited (CMRL) will install the gas-based air conditioning system in three underground stations being built as part of the phase-1 extension. This will be an alternative to the water-based air conditioning units in the underground stations that are operational.

CMRL said the new 'variable refrigerant flow' (VRF) technology would cut down on the consumption of nearly 40,000 litres of water that is now required to operate the water-based air-conditioning systems in each under-



C Suresh Kumar

KEEPING IT COOL: CMRL said 'variable refrigerant flow' technology would cut down on the consumption of nearly 40,000 litres of water

ground station every day.

The VRF systems will be installed in the three underground stations - Washermenpet, Tondiarpet and Korukkupet - being built in the 9km phase-1 extension from Washermenpet to Wimco Nagar.

"It is energy efficient and requires less space as there is no need for a closed room for the outdoor units of the system. So, the units are less expensive than the existing system we use. The installation of the units is also simple," a metro rail official said.

VRF units use refrigerants as the cooling medium. The inverter compressor of the VRF outdoor unit controls the flow of the refrigerant which is circulated within the station to multiple indoor units. The adoption of the new technology is one of the many changes CMRL has made for the phase-1 extension and eventually for the 107.55km phase-2 based on the feedback and lessons learnt from implementing the phase-1 project.

While the existing systems in underground stations in phase-1 use water as the primary cooling medium and refrigerants as the secondary medium, the new VRF units use refrigerants as the cooling medium.

"The concourse and platform levels of the station will have dedicated VRF outdoor units along with air hand-

ling units which regulate and circulate air," an official said.

At present, CMRL gets water from Metro Water as well as purchases through water tankers. "Our daily consumption for the air conditioning system for one station is around 30,000 to 40,000 litres. Now, with the new system, it will reduce that consumption drastically," an official said.

CMRL has taken efforts to save water in stations by installing filters in taps and through the anaerobic sewage treatment plant that consumes zero power, is emission-free and produces minimal sludge. Water from the plant commissioned at the CMBT metro station recently will be used for gardening purposes. The new plant is expected to save CMRL about ₹2.8 lakh every year.