**Individual Underwater Breathing Apparatus for T-90 Tanks for depth up to 5 meter**

**INTRODUCTION:** DEBEL has under taken a project on “Design & Development of Advanced Submarine Escape System for 180m (ASES180)” (TD-15/DEB-118 sanctioned on 16-03-2015) with intent to develop breathing apparatus for shallow depth (PSQR No. A/35854/Make (APU)/GS/Mod (AC)/2018 dated 03-11-2016).

**TECHNOLOGY:** T-90 tanks are the important part of mechanized forces of Indian Army. T-90 tanks are capable to deep ford up to 5m depth underwater with width up to 1km and water current up to 5 knots. In the eventuality of the tank engine stalling/switching off mid-crossing of water, and in an unforeseen situation where the crew is unable to restart the engine, there is no alternative for the crew but to flood the tank to escape compartments of the tank through cupola or escape hatch below driver seat and reach the surface of the water as per the enunciated emergency escape procedure.

Individual Under Water Breathing Apparatus (IUWBA) is a life saving equipment which provides breathing support for 45 minutes in situations where the tank is struck and unable to move to the surface. The item has recently undergone User assisted evaluation (UEA) trials successfully at Parachute Regiment Training Center, Bangalore.

**SALIENT FEATURES:**

* Breathing bag acts as a counter lung device and provides breathing aid to the crew.
* Equipped with automatic demand valve.
* Prevents the bursting of breathing bag during ascent by releasing the excess air inside the breathing bag with PRSV.
* Two mode breathing i.e. from IUWBA and from atmosphere.
* Equipped with canister for regeneration and recirculation of O2 from exhaled CO2.
* The system provides on demand breathing gas supply through breathing gas cylinder and ADV assembly.
* Closed circuit system with lesser weight (5kg Approx.).
* Fabricated out of high strength coated fabric with superior adhesion strength and tear strength.

**Projection**: Army has projected requirement of2430 Sets vide Army letter No. A/35854/Make (IUWBA)/GS/ Mod(AC)/ 2017 dt. 15-06-2018).