

KBR – Joint Operational Fuel System (JOFS)

DESMI ETO Pumps / Systems for Aviation Fuel Transfer by the U.K Armed Forces

CASE STORY

In 2009 DESMI was approached by KBR in the U.K, KBR being a prime contractor to the U.K Armed forces with a specification for the supply of ATEX marked pump units for pumping fuel in 'Theatre' as it is known. Theatre being the 'battlefield'.

We had supplied pumps previously direct to the end user (UK MoD) so the decision was taken that it was a worthwhile exercise to bid for the supply of suitable pumps on this occasion as we stood a good chance of being successful.

The main difference this time being that the pumps had to be ATEX marked - II 2GD c T4 X to comply with EU Health & Safety legislation.



Light Forces Pump Unit - SP-D3-2



KBR had already decided and convinced the end customer that the way to go as far as a compliant design was concerned was for the pumps to be hydraulically driven and ATEX marked which allowed the diesel engine driven power packs to remain relatively straight forward and positioned 15 metres away from the pump i.e. outside the hazardous zone and therefore not have to be ATEX marked.

Although we say straight forward both the pump units and power packs had to be designed in such a way to meet many strict requirements of the contractor and end user. Two of which were to be fully operational at -40 to +55 Deg C and at 3000 metres above sea level without a drop in performance. Other parts of the specification included almost impossible weight restrictions and the ability to be deployed by aircraft by parachute without damage.



Heavy Duty Pump Unit - SP-E5



Medium Duty Pump Unit - SP-D3

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The initial supply started with two of each size of pump unit to be used for trials purposes. There are three sizes of pump unit which are as follows:-

- LFP (Light Forces Pump) - 400 LPM @ 4 bar DESMI Model SP-D3-2
- MDP (Medium Duty Pump) - 680 LPM @ 4 bar DESMI Model SP-D3
- HDP (Heavy Duty Pump) - 2000 LPM @ 6 bar DESMI Model SP-E5

After many months of performance trials at specialist test facilities in the U.K. involving DESMI personnel working alongside KBR and the soldiers we eventually agreed on a solution that all parties were happy with. After which two significant orders totalling over 160 pump units were ordered and have since been delivered.

In principle DESMI is a pump manufacturer but we are so much more than that when we draw upon the skills, competences and competitive nature of our people.



Typical setup of pump unit, filter water separator and bulk flow metering