



## ABRASIVE WATER CUTTING SYSTEM (AWCS)

The AWCS high-pressure system provides the capability to cut virtually any material. It is used by EOD Operators to render safe UXOs of multiple size.

All modules are manually portable and where necessary equipped with large diameter wheels with tyres, lifting handles and lifting points / eyelets. .

Operating temperature 0°C to 53°C as standard. Operation in -10°C to 0°C may be achieved by using Anti Freeze.

AWCS equipment operating within 10 metres of the target has a low magnetic signature.



### MANIPULATOR AND FRAME

The manipulator assembly consists of three independently driven axes.

#### MANIPULATOR:

- Normally mounted on the manipulator frame, but as this unit is self-contained, it can be mounted on any stable platform using the end brackets. The manipulator is waterproof to three metres, has a low magnetic signature, and has quick release clutches for easy setup.

#### FRAME:

- Provides a stable mounting base for the manipulator
- Standard set ups for common tasks, but can also be configured in non-standard forms to meet the variety of tasks likely to be encountered
- Standard size scaffold tubing
- Low magnetic signature
- The feet have holes for securing the frame on uneven ground, and a high friction rubber sole provides additional grip on hard surfaces



## ENGINE / PUMP MODULE

A single cylinder diesel engine with charging coil and a high pressure pump and AWCS power control box.

### THE ENGINE PUMP MODULE CONTAINS:

- A diesel engine which drives the high pressure pump and provides electrical power to the system
- A high pressure pump, a water reservoir, the system switch / control cabinet and the system pressure control valve with pressure gauge and safety relief valve
- A water reservoir that can be continually topped up from a local water source or the Water Supply Module (WSM)
- The Engine Pump Module is supplied with removable wheels, suitable lifting handles and lifting eyes



## WATER SUPPLY MODULE

An optional add-on that provides a flow of up to 12 litres per minute of filtered water.

- The two stage 20 & 100 micron filter system and long inlet hose allows use of water from sources such as the sea, rivers and lakes.
- UK Fire Hydrant Coupling (Type: 2.5" BS 336 instantaneous connector, 3/4" BSP female threaded connection, maximum working pressure 15 bar).
- Lifting handles, lifting eyes, removable large diameter wheels, a rechargeable 12V 85Ah Battery, and control box with pump hours run meter.



## SLURRY MODULE

Provides the means of reliably mixing a controlled rate of abrasive slurry to the high pressure water flow from the pump module.

- The main part of the Slurry Module is the high pressure vessel
- It is filled up with the suitable abrasive in accordance with the process parameters and the operating instructions
- Cutting time of the Slurry Module is limited by the adjusted discharge quantity. For longer running cutting processes the Slurry Module must probably be refilled



## 20M CABLE REEL

Provides the motor control functions and power for the manipulator module.





## HAND CONTROLLER

To program manipulator functions for cutting and wash out operations.

This unit communicates with the electronics within the 17m Cable Reel and provides feedback to the system operators by way of progress reporting, built in test (BIT) routines and a series of fault codes.

The hand controller has an emergency stop switch and BIT functions. This unit has a simple and intuitive design for use with gloved hands and has backlit controls for use in low light conditions.



## SPECIFICATIONS

### ENGINE / PUMP MODULE:

- 7.3kW diesel engine
- 12v electric key start
- Dims 900 x 580 x 710mm (L x W x H)
- Weight 135Kgs
- 690 Bar
- 6 litre per minute
- 50 litre water header tank
- Pressure gauge
- Pressure control valve
- Safety relief valve (700 Bar)

### SLURRY MODULE:

- 12 litre mixing/storage vessel
- Outlet & recharge control valves
- Pressure gauge
- Safety relief valve (715 Bar)
- Rupture disc assembly
- 25 minute run time per charge
- Dims 725 x 500 x 780mm (L x W x H)
- Weight 115Kgs

### WATER SUPPLY MODULE (OPTIONAL)

- 20 & 100 micron filter system
- 12 litres per minute
- Automatic on/off flow switch
- UK hydrant connection
- Long inlet/outlet hoses
- Dims 500 x 600 x 400mm (L x W x H)
- Weight 79Kgs



### HAND CONTROLLER:

- Hand held robust unit
- Fully backlit controls
- Continuous status display
- Built in self test functions
- Two line LED display
- Large controls for gloved hands
- Dims 276 x 162 x 109mm (L x W x H)
- Weight 2Kgs

### 20M CABLE REEL:

- Drum brake
- Built-in self test functions
- Dims 400dia x 150h
- Weight 23Kgs

### MANIPULATOR:

- Electrical manipulation system
- Three axis drive system
- Linear (X or Y 600mm)
- Rotary (continuous)
- Depth Axis (Z 250mm)
- Dims 1340 x 440 x 735mm (L x W x H)
- Weight 31Kgs

### MANIPULATOR FRAME:

- Standard size scaffold tubing
- Adjustable hinges
- Height adjustable feet with lock nuts
- Weight 29Kgs

### ANCILLARY COMPONENTS

*The complete AWCS comprises other equipment including:*

- 100m High Pressure Hoses
- 160m Cable Reels
- 3m and 17m Cable Assembly
- 17m Cable Reel Battery Charger
- Transport Cases
- Operator Tool Kit
- Operation & Maintenance Manual
- Cutting Nozzle Holder
- Manipulator Nozzle Brackets (Various)
- Consumables Pack