## **Application Data**

## Abrasive Cutating (Cold Cutting)







Typical Pumps & Performances		
Pump	Performance	Application
Ultrabar 10	<b>10lpm at 2600bar</b> (2.8gpm at 38,000psi)	Cutting smaller material on sites with limited access
Ultrabar 15	<b>14lpm at 2750bar</b> (3.7gpm at 40,000psi)	Medium duty cutting
Ultrabar 24	<b>23lpm at 2750bar</b> (6.1gpm at 40,000psi)	Heavy duty cutting of thick materials

Abrasive cutting is a term used when UHP water at 2500-3000bar is mixed with fine abrasive to form a powerful cutting jet able to cut through steel & concrete centimetres thick. The water jet travels at 500-600m/sec, carrying the abrasive which cuts the material.

Within the cutting nozzle assembly, the velocity of the water jet creates a venturi effect which draws in fine, dry abrasive which is metered from a nearby hopper. As there is virtually no heat or spark generation, this process is also referred to as Cold Cutting & is commonly used in hazardous areas such as in refineries

or on offshore platforms.

The abrasive nozzle attaches to a manipulator which is generally attached to the steel surface being cut with magnets. The nozzle is then moved with a hydraulic or pneumatic motor at a controlled speed depending on the thickness of the material being cut.



Cutting large a diameter pipe



Cutting a section from an oil storage tank

## **Benefits of Water Jetting**

- Extreme accuracy of cut without any heat affected zone
- · Leaves a machined like finish
- Edges can be bevelled for weld preparation
- · Will cut virtually any material
- Can be used in hazardous/ explosive areas
- Eliminates the need for plant shutdown
- Even suitable for decommissioning of munitions
- The process keeps the operator away from the cutting process
- Environmentally friendly, does not create any smoke or fumes
- The water jet is non-contact & therefore does not become blunt nor snags
- The pump is versatile & can be used for other cleaning & cutting applications



Ultrabar 10EC Offshore unit



Ultrabar 24DRT unit

This information is intended to be a guide only. The required pump size & performance can vary depending on many factors including rate of work required, hardness of deposit or work piece, operator skill, site access etc

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