

WEBTOOL

CUTTING EDGE TECHNOLOGY

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WCOS54D

WIRE ROPE CUTTER

PRODUCT CODE No. 980485

INSTRUCTIONS FOR INSTALLATION, OPERATION & MAINTENANCE

Issue 2. 13th February 2007

1. INSTALLATION

- 1.1 Four tapped Holes, M10 x 20mm deep, are provided in the tool body (see sketch) which can be used for any attachment necessary to mount the cutter. The cylinder is a pressure vessel and is not recommended as a mounting point, the cylinder should not be drilled, machined, mutilated or damaged in any way, any warranty could be invalidated by such actions.
- 1.2 A hydraulic supply is required, ported as shown (see sketch). The maximum working pressures are shown in the table below and pressure limiting valves must be fitted into the supply to limit the pressures to these levels.
- 1.3 The weight of the tool is 40kg.

TABLE 1.

Function	Max. Working Pressure		Swept Volume		Port Tapping
	psi	bar	ml.	U.S. Gallon	
Working Stroke	10,000	690	450	(0.119)	1/4" BSP
Return Stroke	10,000*	690*	260	(0.068)	1/4" BSP

***N.B.** Actual pressure required to return Ram < 215 psi (15 bar)

2. CUTTING CAPACITY

The cutter is primarily intended for use on steel wire rope, having a maximum tensile strength of 1770N/mm and will cut ropes up to 54mm diameter. It may be used on alternative materials, such as electrical power or communication cables, again up to a maximum of 54mm diameter. Where smaller diameters are to be cut, effort should be made to place the material centrally along the anvil to minimise any offset loading. This cutter is not intended for use on chain or solid steel bar.

3. SAFETY

Whilst the tool is intended for remote or local operation sub-sea, there is no reason why it should not be used above surface.

- 3.1 In all cases, where an operator is present, the safety aspects must be reviewed before the cutting operation is commenced.
- 3.2
 - i. Ensure that the tool, hoses and pump are in good condition and properly connected.
 - ii. No attempt should be made to cut wire ropes or other material that is under tension.
 - iii. Ensure that the operator is shielded from the cutting blade during the cutting operation. When cutting near the very end of hose or rope, individual cut wires can be expelled from the tool, please ensure that the operator is shielded from these.

3.3 Proof Tests.

If at any time it is necessary to carry out proof tests on the tool, e.g. after service on the hydraulic cylinders, it must be returned to the supplier for testing where the following procedures apply.

- i.* The maximum proof test pressure should not exceed 125% of the maximum working pressure and this should only be done by Allspeeds using our specially adapted test rig.
- ii.* The tool should be guarded during the proof test operation, and be carried out in a safe working environment.
- iii.* The proof pressure should be applied gradually, until the maximum pressure is reached.

4. OPERATION

- 4.1 Prior to use, ensure the anvil is fully retained in position with the screw and no damage has occurred to the blade or anvil.
- 4.2 Place the cutter over the wire rope. Ensure that the wire rope is as far into the cutter as possible.
- 4.3 Operate the main ram power port to sever the wire rope, hold pressure until the wire rope is severed.
- 4.4 Once the wire is severed, pressurize the main ram retract port to withdraw the cutting blade.
- 4.5 If a further cut is required, the above procedure should be repeated.

5. AFTER USE

When the tool is retrieved, it should be hosed off with clean water, allowed to drain and sprayed externally with a de-watering fluid. Before storage, inspect the general condition of the tool. Particular attention should be paid to the anvil and blade. The anvil should be clean and free from any damage, the life of the anvil may be extended by rotating it slightly to present a new cutting surface to the wire and blade. The blade edge should be smooth and free from any serrations. Note that a slight ripple to the blade edge is acceptable and will not cause problems. Any minor damage can be smoothed off with an oil stone if necessary.

6. SERVICE

It is unlikely that service would be required on the hydraulic components of the tool under normal circumstances, but a seal spares kit is available if required. The only parts that would need intermittent replacement would be the anvil and blade, depending on the frequency of use and materials being cut. These parts can be ordered up on the following spares reference numbers, but in addition please quote the tool serial number.

Seal Kit	Part Number	995138
Anvil	Part Number	761279
Blade	Part Number	705041

We advise that any servicing should be carried out by an authorised distributor only. If required, the tool can be returned to the manufacturer for servicing and testing.

If servicing is to be undertaken by the user, please see note on proof testing under SAFETY (Chapter 3), and the following:-

All servicing operations should be carried out in a clean environment to prevent contamination of the oil and mating components.

Care should be taken with all mating areas ie. threads and sealing faces, as any damage or abrasive contamination could cause galling or seizing on re-assembly.

Please note that we coat the stainless steel cylinders with TiN to prevent galling, however, a suitable anti-galling paste should be used (we recommend Swagelok Silver Goop) on all stainless steel threads.

The cylinder is a pressure vessel and should not be drilled, machined, mutilated or damaged in any way for mounting purposes or to assist in its removal for servicing, any warranty could be invalidated by such actions.

The use of stilsons to remove the cylinder is not recommended as damage will occur.

7. REPLACEMENT OF THE ANVIL

- Loosen and remove the screw (035111) holding the anvil (761279) in place.
- The anvil (761279) may now be slid out from the body.
- Re-assembly is the reverse of the above process.

8. REPLACEMENT OF THE CUTTING BLADE

- First withdraw the anvil as described above.
- Pump out the main ram until the blade retaining pin (030522) can be seen in the opening of the cutter body.
- Drift out the pin (030522) and slide the blade (705041) out of the tool.

9. REMOVAL OF THE MAIN CYLINDER

If it is necessary to renew the hydraulic seals, the cylinder must be removed from the tool. As an aid to this, the hydraulic ports on the sides of the cylinder can be used. The hydraulic fittings should first be removed, then a threaded bar is to be screwed into each port. The thread in the ports is ¼” BSP. These can be used to loosen or re-tighten the cylinder. Do not use Stilsons to remove the cylinder as damage will occur.

WCOS54D – Part List		980485
Part No.	Description	Qty.
710299	Cutter body	1
728104	Cylinder	1
764143	Ram	1
774024	Bearing ring	1
705041	Blade	1
766084	Blanking plug	1
726356	Adaptor	2
715375	Screwed fitting	1
715313	Screwed bush	1
761279	Anvil	1
030522	Blade retaining pin	1
035111	Anvil retaining screw	1
041525	Return spring screw	1
788088	Return spring	1
791123	Nipple	2
752342	Webtool nameplate	1
025795*	Rod seal*	1
32-99-1374*	Piston seal*	1
025567*	Ram wiper*	1
025771*	O ring, cylinder/bearing ring*	1
32-07-0035*	Bonded seal ¼” BSP*	3

* These parts are in the seal kit

WEBTOOL

CUTTING EDGE TECHNOLOGY

Webtool specialises in engineering powerful hydraulic tools for cutting and gripping rope, cable and umbilicals.

Models designed for use in subsea environments by ROV's, and surface applications in hostile environments.

- Wire rope cutters (WCS and WCOS) – capable of cutting steel wire rope up to 75mm diameter
- Wire Rope Cutters (RCV) – capable of cutting steel wire rope up to 190mm diameter
- Cable Cutters (HCV) – capable of cutting cable, umbilical and armoured flexible pipe lines up to 330mm diameter
- Softline Cutters (SL) – capable of cutting fibre ropes in various sizes
 - Wire Rope / Cable Grippers
 - Wire Rope Clamps
 - Automatic Shackles

Application specific solutions

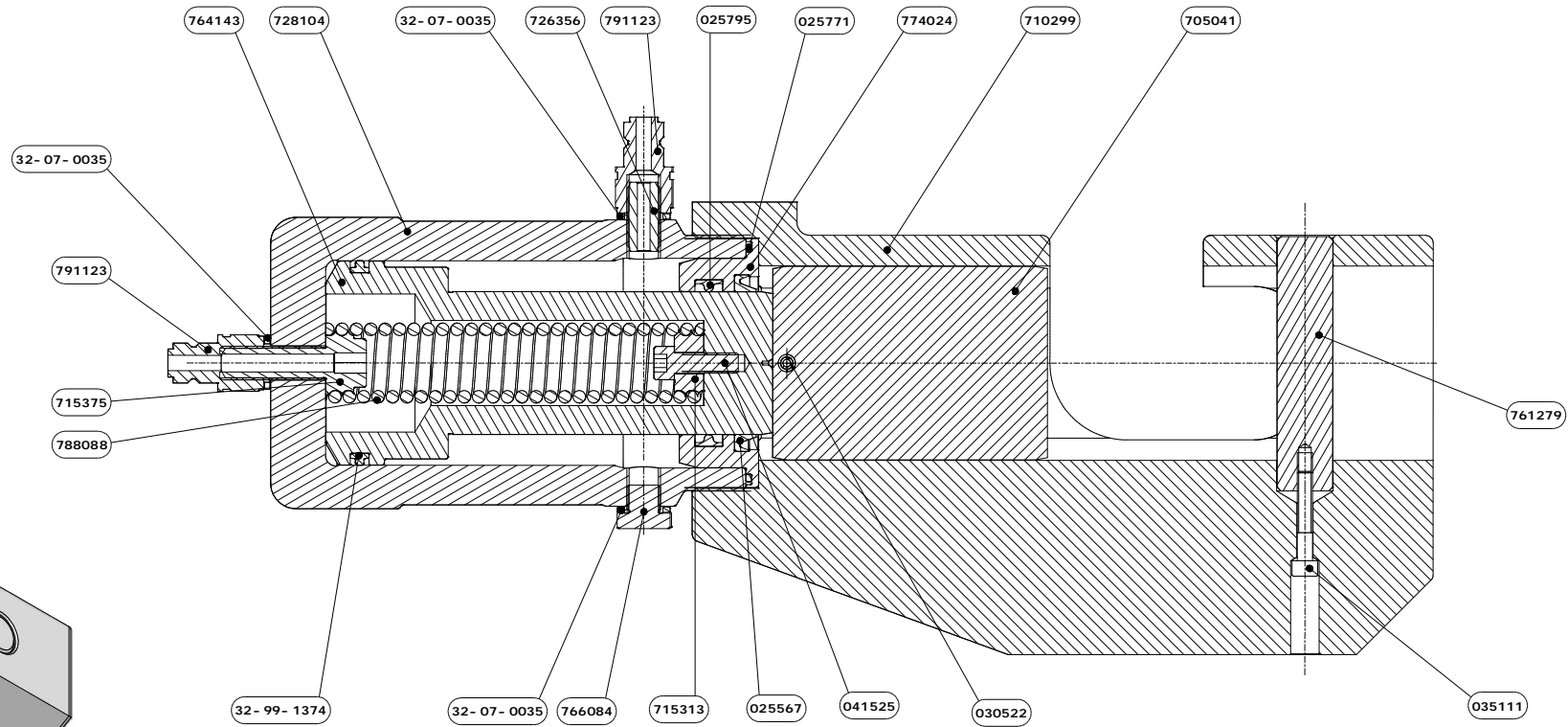
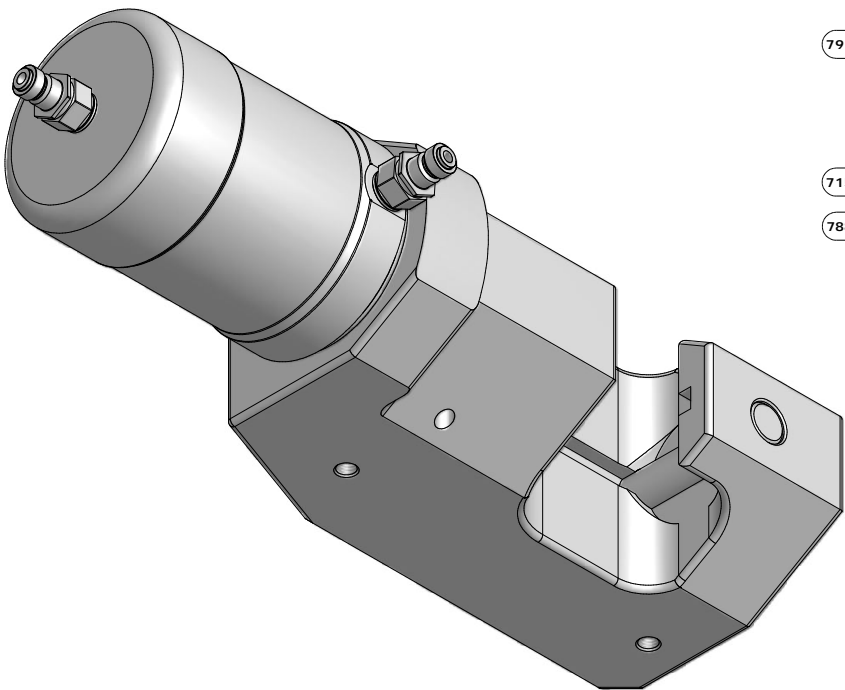
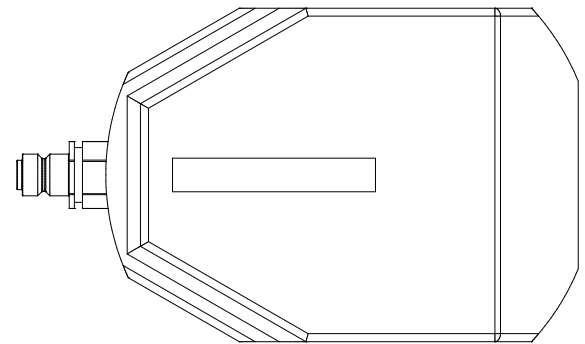
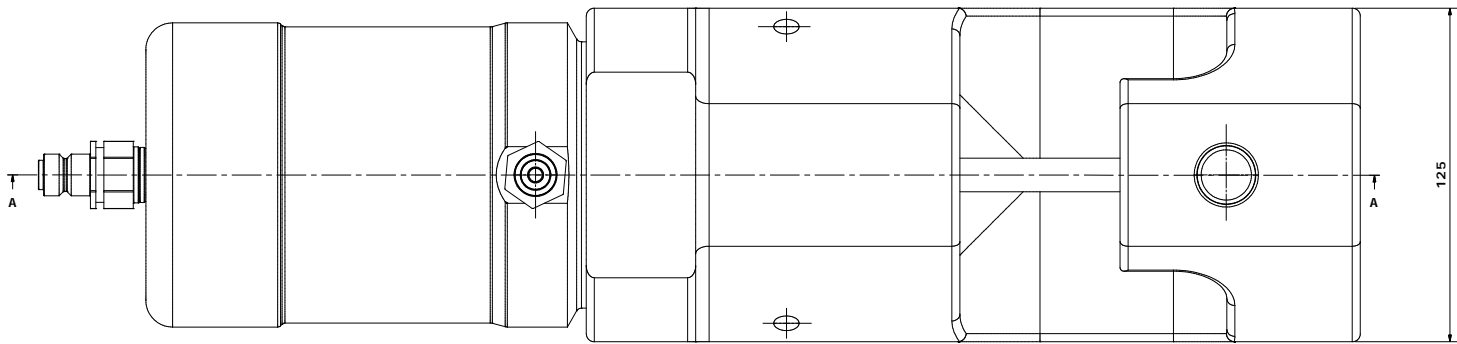
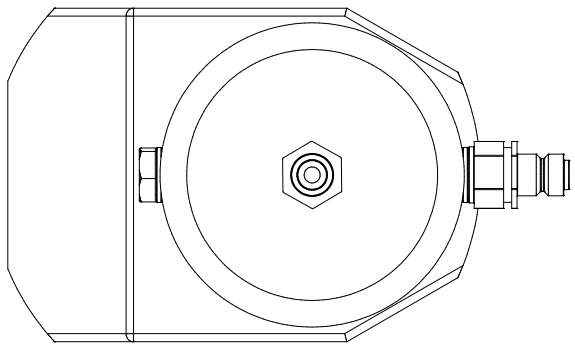
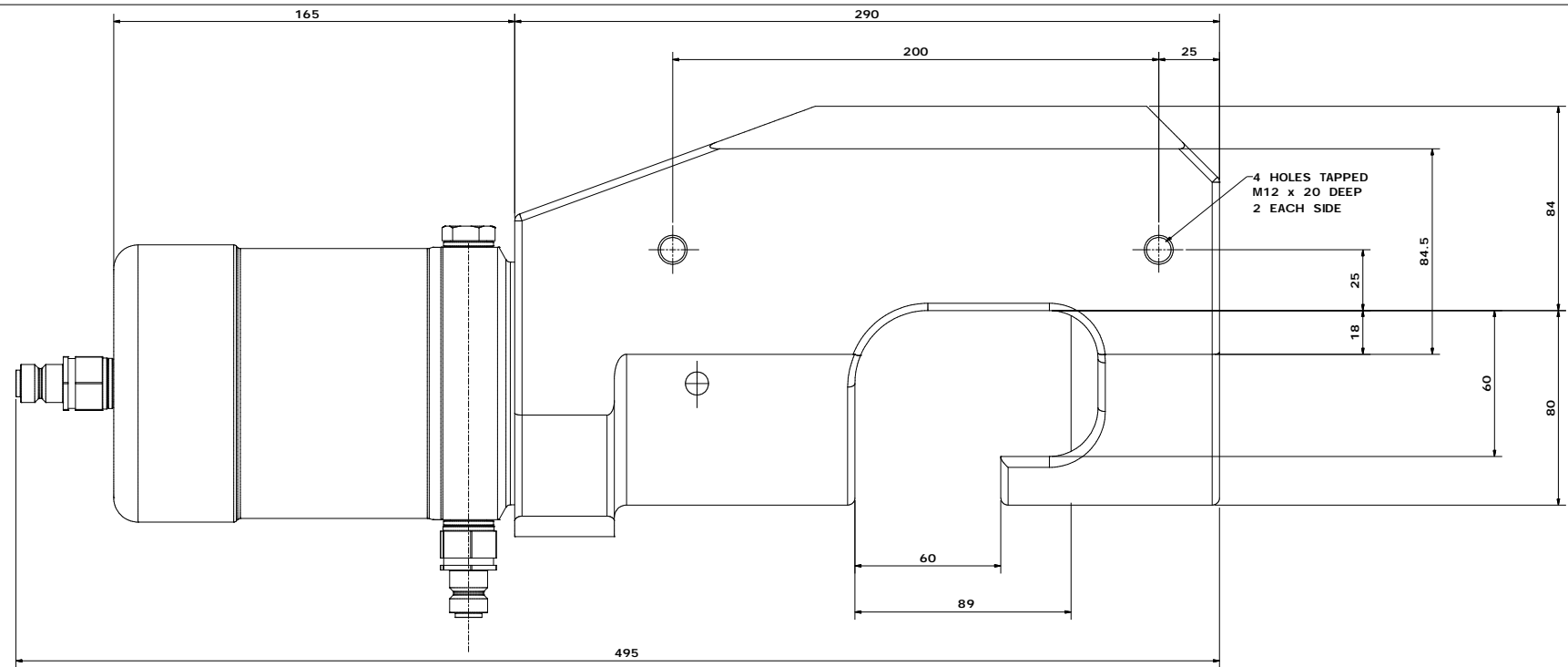
Our in house design and manufacturing capability means we can quickly and efficiently develop a solution to suit your particular application. Contact our engineering department to discuss how we can help.

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SECTION A-A (1 : 1)



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NO.	REV.	DATE	BY	CHKD.	APPD.	DESC.

MATL.	
GRADE	
SPEC.	
H/T.	AO

EXCEPT WHEN STATED
 DIMS ARE mm
 TOLS ARE ±0.25mm

WCOS54D WIRE ROPE CUTTER DOUBLE ACTING SPRING RETURN			
DRAWN	David Heys	APPROVED	DATE 10/08/2006
SHEET 1 OF 1	SCALE 1:1	DRG. No.	980485