

**WIRE ROPE CUTTER**

**With Retractable Anvil**

**TYPE WCS 75 HDZ**

**Part No. 980 482**

**INSTRUCTIONS FOR INSTALLATION,  
OPERATION & MAINTENANCE**

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### **THINK SAFETY:**

Before using the tool to cut, review the safety aspects of the operation.

- ENSURE** :
- : that the hose couplings are properly made and safe.
  - : that the tool is in good condition.
  - : that the rated pressure of the tool cannot be exceeded.
  - : that the wire rope to be cut is not under tension and that it is properly within the tool.
  - : that any severed ends cannot fly off and injure the operator. If In any doubt, always arrange shields.

#### **DESCRIPTION:**

This tool is suitable for cutting 1770 grade wire up to 75mm in diameter. It is suitable for local or remote operation in sub-sea environments (i.e. on an ROV) and is fitted with a hydraulically retractable anvil. This allows the cutter to be placed over a continuous length of wire rope.

#### **HYDRAULIC SUPPLY:**

The tool must be connected to a balanced hydraulic power source, either a manual or powered pump. The oil supply must be clear and free from contamination. A good quality ISO 22 grade hydraulic oil, e.g. Shell Tellus 22, is suitable

**IT IS IMPORTANT** that the pressure source incorporates a pressure relief or limiting valve so that the applied pressure cannot exceed the rating of the tool. A relief valve should also be incorporated in the return line. This is to prevent excessively high pressures in the annular side of the hydraulic cylinders should the return to tank become blocked for any reason.

The supply to the main ram power stroke part should be rated 600 Bar (10 000 psi). The main ram return port and the anvil cylinder extend/retract ports require a supply rated at 190 Bar (2750psi).

**NOTE 1 :** In practice, although the auxiliary hydraulics are rated at 190 Bar, the actual pressure required in operation is usually much less than this.

**NOTE 2 :** If more convenient for hydraulic system layout, the main ram return port can be operated safely from the high pressure 690 Bar supply service.

## OPERATION:

- : Pressurize the anvil cylinder retract port to fully retract the anvil.
- : Place the cutter over the wire rope as far as it will go.
- : Pressurize the anvil cylinder extend port to fully extend the anvil, thus retaining the wire rope in the body of the tool

Check visually that the anvil is fully home, this is important to prevent damage to the tool (The end of the anvil should just be proud of the body of the tool on the opposite face to the anvil cylinder).

:To carry out the cutting operation, pressurize the main ram power port and maintain pressure until the wire rope is severed.

Once the anvil is severed, pressurize the main ram retract port to withdraw the cutting blade, THEN retract the anvil. IT IS IMPORTANT not to operate the anvil cylinder whilst the main ram (and blade) is in the fully extended position

## GENERAL MAINTENANCE:

Since the cutter is manufactured with care from high quality materials, little maintenance will prove necessary.

Replaceable parts in normal service are the blade and anvil. The life of the anvil may be extended by rotating it slightly to present new cutting surfaces to the wire and blade. Otherwise, simply ensure that the tool is kept clean and free from debris.

Seal kits are available, for kit numbers see below.

## BLADE RENEWAL- *Read in conjunction with parts list and drawings.*

To change the blade, 705009 the following procedure should be adopted. Pump out the ram until the blade retaining pins (030 632) can be seen in the U of the body. Drift out the retaining pins and remove the blade. When refitting a new blade, ensure that the retaining pins are below the surface of the ram (764088) on both sides.

## DIS-ASSEMBLY : - *Read in conjunction with parts list and drawings.*

Disconnect all hoses and remove 4 screws 31-75-0830. withdraw anvil assembly 982117 and lay aside.

Remove blade as previously described. Unscrew body (710302) from main cylinder (728097) then pull out piston (764088) and remove the ram bearing ring (724026). All seals are now accessible.

To disassemble the anvil cylinder assembly 982117, remove the 4 screws 035 079. The cylinder body 728067 will now pull free. Unscrew the anvil WC 6777 from the piston rod 764105. The piston rod may now be withdrawn from housing 749042. All seals are now accessible.

## RE-ASSEMBLY

To do this - reverse the sequence of operations listed above. Ensure that all parts are clean and smear all seals with grease before assembly.

## SPARE PARTS:

:	Seal Kit (Main power cylinder part only)	Part No.	995 137
:	Seal Kit (Anvil cylinder part only)	Part No.	995 122
:	Anvil	Part No. .	WC 6377
:	Blade	Part No.	705 009
:	Retaining Pin, blade, (2 off)	Part No.	030 632

## PARTS LIST-MAIN ASSEMBLY 980 482

PART No.	DESCRIPTION	QTY
705 009	BLADE	1
710 302	BODY	1
728 097	CYLINDER, MAIN	1
764 088	RAM	1
774 026	BEARING RING	1
025 570	— SCRAPER, RAM	1
025 788	— SEAL, 'O' RING	1
025 789	— RING, BACKUP	1
025 799	— SEAL, RAM HEAD	1
025 804	— SEAL, RAM ROD	1
030 632	PIN, SPIROL (STAINLESS STEEL)	2
32-07-0035	SEAL, BONDED WASHER	3
726 356	ADAPTOR 1/4" B.S.P	2
752 342	NAMEPLATE	1
1242017	NIPPLE, HYDRAULIC	2
31-75-0830	SCREW, SOCKET CAP M8 x 30	4
766 084	1/4" BLANKING PLUG	1
982 117	ANVIL CYLINDERSUB-ASSEMBLY	1

**PARTS LIST-ANVIL CYLINDER SUB-ASSEMBLY 982 117**

<b>PART No.</b>	<b>DESCRIPTION</b>	<b>QTY</b>
728 067	CYLINDER, ANVIL	1
749 042	HOUSING, ANVIL	1
764 105	PISTON	1
WC 6377	ANVIL	1
025 311	SEAL, 'O' RING	1
025 569	SCRAPER, ROD	1
025 801	SEAL, PISTON ANVIL	1
025 802	SEAL, ROD ANVIL	1
035 079	SCREW, SOCKET CAP M6 x 25	4

