

WIRE ROPE CUTTER
TYPE WCS100D with HYDRAULIC ANVIL

Part No. 980 486

**INSTRUCTIONS FOR INSTALLATION,
OPERATION & MAINTENANCE**

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SAFETY:

In all cases, where an operator is present, the following safety aspects must be reviewed before cutting operation is initiated.

- Ensure : that the tool, hose, couplings and pump are in good condition and are properly connected
- : that the material being cut is not under tension.
- : that the rated pressure of the tool cannot be exceeded.
- : that the operator is shielded during the cutting operation, especially when cutting near the end of a cable, as pieces of material may be expelled from the tool.

DESCRIPTION:

This tool is a double acting hydraulically powered cutting tool with hydraulic anvil for use on wire rope and similar materials. It is suitable for local operation in marine environments.

CUTTING CAPACITY:

The WCS100 D cutter is primarily intended for cutting wire ropes or cables up to 100mm in diameter. It is not intended for use on chain or solid steel bar.

INSTALLATION:

Four holes M10 x 12 deep are provided in the tool that can be used for any attachment necessary to mount to the tool.

A hydraulic supply is required using a good quality ISO 22 grade hydraulic oil, e.g. Shell Tellus 22. The oil supply must be clean and free from contamination.

The maximum working pressure and port tappings are shown below

Note that pressure limiting valves should be fitted to the hydraulic supply to prevent over-pressure at the tool

Operation	Max working Pressure		Swept Volume	Port tapping
	(Bar)	(psi)	(ltrs)	
Working stroke	690	10,000	1.44	3/8" BSP
Return Stroke	690	10,000	0.74	3/8" BSP
Anvil Stroke	200	3,000	0.08	1/4" NPT
Anvil Return Stroke	200	3,000	0.05	1/4" NPT

(Actual pressure required to return ram < 15 Bar (215 psi))

OPERATION:

- : Pressurize the anvil cylinder retract port to fully retract the anvil.
- : Place the cutter over the wire rope so that the material is as far into the cutter as possible.
- : Pressurize the anvil cylinder extend port to fully extend the anvil thus retaining the wire rope fully in the body of the tool. Check visually that the anvil is fully home, this is important to prevent damage to the tool.
- : To carry out the cutting operation, pressurize the main ram power port and maintain pressure until the wire rope is severed.
- : Once the wire 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.

AFTER USE:

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 blade edge should be smooth and free from any serrations, a slight ripple on the blade edge is acceptable, any minor damage can be smoothed off with an oil stone where necessary. 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. If the tool has been used in a marine environment it should be hosed down with clean water, allowed to drain and sprayed externally with a de-watering fluid.

SERVICE:

It is unlikely that service should be required on the hydraulic components of the tool under normal circumstances, however spare seal kits are available if required. The blade and anvil are the only parts that require intermittent replacement, depending on the frequency of use and the materials being cut.

Component	Part Number
Anvil	761 280
Blade	705 065
Seal Kit	995 143

If required the tool can be returned to the manufacturer at any time for servicing and testing. If servicing is undertaken by the user please follow the instructions in the Proof Tests section below.

PROOF TESTS:

If at any time it is necessary to carry out proof tests on the tool, e.g. after service on the hydraulic cylinder the following procedure should be applied

- : The proof test pressure should not exceed 125% of the maximum working pressure.
- : The tool should be guarded during proof test operation
- : The proof test pressure should be applied gradually, by means of a hand pump, until the maximum test pressure is reached.

REPLACEMENT OF BLADE:

To remove the blade follow this procedure

- : Retract the Anvil. Pump out the main ram until the two Ø¼" blade pins are accessible. Drift out the pins and slide the blade out of the tool.
- : To replace a blade the reverse the above procedure.

CUTTER PARTS LIST:

PART No.	DESCRIPTION	QTY
710 294	Cutter Body	1
728 091	Cylinder	1
764 139	Ram	1
774 028	Bearing Ring	1
705 065	Blade	1
030 632	Blade Retaining Pins	2
025 920	Piston Seal	1
025 921	Ram Wiper	1
025 922	Rod Seal	1
025 923	O Ring Cylinder/ Bearing Ring	1
025 924	A/E Ring for 025 923	1
027 515	Bearing Ring Positioning Pin	1
025 925	O Ring Port connecting hole	1
035 114	M8 Socket Set Screw – Stainless Steel	2
766 061	Blanking Plugs	2
752 342	Label	1

HYDRAULIC ANVIL PARTS LIST:

PART No.	DESCRIPTION	QTY
749 049	Anvil Housing	1
749 046	Anvil Housing Seal	1
728 099	Anvil Cylinder	1
761 280	Anvil	1
764 137	Anvil Piston	1
025 801	Anvil Piston Seal	1
025 569	Anvil Piston Wiper	1
025 802	Anvil Rod Seal	1
025 311	O Ring	1
035 118	M6 Socket Set Screw – Stainless Steel 316	4
035 100	M8 Socket Set Screw – Stainless Steel 316	4
766 047	Blanking Plugs	2

Hydraulic Anvil Assembly 982146

