

WIRE ROPE CUTTERS

TYPE WC, WCS, WCO, WCOS

**INSTRUCTIONS FOR INSTALLATION,
OPERATION & MAINTENANCE**

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These instructions cover the following tool variants:

- WC __ - Single Acting Spring Assisted Return Cutter [22 38 54 75]
- WCO __ - Single Acting Spring Assisted Return Cutter With Open Sided Body [22 38]
- WCO 75 H - Single Acting Spring Assisted Return Cutter, Heavy Duty
- WC__ D - Double Acting Hydraulic Return Cutter [22 38 54 75]
- WCO__ D - Double Acting Hydraulic Return Cutter With Open Sided Body [22 38 54]
- WCO 75 HD - Double Acting Hydraulic Return Cutter, Heavy Duty
- WCS __ - Stainless Steel [22 38 54 75]
- WCOS__ - Stainless Steel [22 38 54 75]
- WC_____ Z - Customers special requirement

Tool Specification Code

- WC - Wire Cutter
- WCO - Wire cutter open bodied (optional)
- 22 - Capacity of wire diameter
- H - Heavy duty (optional)
- D - Double acting (optional)
- S - An 'S' in the code denotes Stainless Steel Cutter
- Z - Customers special requirement

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.

Operating and Maintenance Instructions

HYDRAULIC SUPPLY REQUIREMENTS:

The tool must be connected to a hydraulic power source which can be a single or double hose system, either a manual or powered pump. 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. If the tool is connected for double acting operation; a relief valve must also be incorporated in the return line. The maximum working pressure is 700 Bar. A good quality ISO22 grade hydraulic oil, e.g. Shell Tellus 22, is suitable.

OPERATIONS:

Operating the pressure source will cause the ram to extend, thus moving the blade to the anvil. With a single line source the internal spring in the tool will help to retract the ram after operation. It is safe to operate the cutter to full travel and full pressure, even without having wire in place cut.

To cut, the wire rope should be placed between the blade and the anvil. In the case of the closed cutters type WC and WCS, the end of the wire should be fed through the tool OR the anvil removed, the tool placed over the wire and the anvil replaced. Ensure that the anvil is fully home and that the retaining spring is engaged.

For the open sided cutters, type WCO and WCOS, the wire should be placed as far into the access slot as possible. Note that unless this is done, some strands of wire may escape being cut.

CUTTING CAPACITY:

The cutter is designed to cut wire rope up to the diameter indicated by the tool size. These capacities are for wire rope only. The cutters will not cut solid sections to these diameters. The cutting blade is designed for use on wire having an ultimate tensile strength of 1770N/mm^2 . Attempts to cut wire rope of greater tensile strength may damage the blade or reduce its operating life.

GENERAL MAINTENANCE:

Since the cutters are 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:-

No's in brackets refer to Tables 1,2 & 3

To change the blade, the following procedure should be adopted. Pump out the ram until the blade retaining pin (9) can be seen under the access hole in the body. Drift out the retaining pin and remove blade (17). When refitting a new blade, ensure that the retaining pin is below the surface of the ram (5) on both sides.

DIS-ASSEMBLY: -

No's in brackets refer to Tables 1,2 & 3

Remove blade, as previously described, then disconnect hose and unscrew hose coupling (1). Use the appropriate extended length* allen key to pass through adapter (2) and unscrew (6), thereby releasing spring assembly.

* 5" long; 4mm A/F for sizes 22 & 38, 6mm A/F for WC54 & 75. The 6mm key must be reduced to $\text{Ø } 7/32$ for half its length. "T" wrenches are available, parts SK 3547 & SK 3548.

Unscrew body (16) from main cylinder (3) then pull out ram (5) and remove the ram bearing ring (15). All seals are now accessible. If it is required to remove the spring assembly, the adapter (2) should be screwed through into the main cylinder.

RE-ASSEMBLY: -

(Single Acting Cutter WC/WCO/WCS/WCOS Types)

Make sure all parts are clean and smear all seals with grease before assembly. Screw the spring assembly (6, 12, 14) into the cylinder and tighten in place. Place the ram bearing ring (15) onto ram (5) and the ram into the cylinder (3). Screw the body onto the cylinder and tighten. Rotate the slot in the end of the piston until it lines up with the keyways in the body and temporarily insert blade (17) to maintain angular location. Hold in the retracted position. Insert allen key into screw (6), press down and rotate to engage thread, screwing till nipped tight. Refit adapter (1), connect hose and then pump out piston until the hole for retaining pin (9) is visible through body. Fit retaining pin (9) then test the cutter ready for use.

TABLE 1.

ITEM	DESCRIPTION	QTY	PART NUMBER						
			WC22	WCO22	WC38	WCO38	WC54	WC75	WC75H
1	Coupling	1				791123			
2	Screwed fitting	1	715310		715324		715312		
3	Cylinder	1	728031		728032	728033	728034	728045	
4	Piston Seal	1	32-99-1370		32-99-1372	32-99-1374	32-99-1375	025 799	
5	Ram	1	764065		764066	764067	764068	764088	
6	Screw	1	041316		041516	041516	041525		
7	Bearing Ring O'Ring	1	025769		025770	025771	025772	025 788 + 025 78	
8	Wiper seal	1	025566		025563		025567	025 570	
9	Retaining Pin	1	035515			030522		030632(2)	
10	Anvil	1	WC6387	WC6386	WC6388	WC6403	WC6390	WC6391	
11a	Washer	2				32-07-0804			
11b	Blanking plug	1				766019			
12	Spring	1	788046		788049		788047		
13	Rod Seal	1	025791		025793		025795	025 804	
14	Spring bush	1	715311		715325		715313		
15	Bearing ring	1	774022		774023	774024	774025	774026	
16	Body	1	710238	710237	710239	710243	710241	710242	710264
17	Blade	1	705011	705031	705012	705032	705013	705014	705033
18	Screw	1	N/A	035066	N/A	035066	N/A	N/A	N/A
19a	Washer	1	080959	N/A	080959	N/A		080959	
19b	Screw	1	035052	N/A	035052	N/A		035052	
20	Anvil Spring	1	788064	N/A	788064	N/A		788064	

RE-ASSEMBLY: -

(Double Acting Cutter WC/WCO Type)

Make sure all parts are clean and smear all seals with grease before assembly. Fit coupling adaptors, 2 off, to cylinder. Ensure adapter does not protrude into cylinder bore. Place the ram bearing ring (15) onto ram (5) and the ram into the cylinder (3). Screw the body onto the cylinder and tighten. Rotate the slot in the end of the piston until it lines up with the keyways in the body and temporarily insert blade (17) to maintain angular location. Hold in the retracted position. Connect hose and then pump out piston until the hole for retaining pin (9) is visible through body. Fit retaining pin (9) then test the cutter ready for use.

TABLE 2.

ITEM	DESCRIPTION	QTY	PART NUMBER						WC75D	WC75HD
			WC22D	WCO22D	WC38D	WCO38D	WC54D	WCO54D		
1	Coupling	2					791123			
2	Adaptor	2					726356			
3	Cylinder	1	728031		728032	728033	728068	728034	728045	
4	Piston Seal	1	32-99-1370		32-99-1372		32-99-1374	32-99-1375	025799	
5	Ram	1	764065		764066	764067	764108	764068	764088	
7	Bearing Ring O Ring	1	025769		025770		025771	025772	025788 +025789	
8	Wiper Seal	1	025566		025563			025567	025570	
9	Retaining Pin	1	030515			030522			030632(2)	
10	Anvil	1	WC6387	WC6386	WC6388	WC6403	WC6390	WC6484	WC6391	
11a	Washer	2				32-07-0804				
13	Rod Seal	1	025791		025793		025795		025804	
15	Bearing Ring	1	774022		774023		774024	774025	774026	
16	Body	1	710238	710237	710239	710243	710241	710271	710242	710264
17	Blade	1	705011	705031	705012	705032	705013	705041	705014	705033
18	Screw	1	N/A	035066	N/A	035066	N/A	035079	N/A	N/A
19a	Washer	1	080959	N/A	080959	N/A	080959	N/A	080959	
19b	Screw	1	035052	N/A	035052	N/A	035052	N/A	035052	
20	Anvil Spring	1	788064	N/A	788064	N/A	788064	N/A	788064	

Please note: Cutter 980150 WC54DZ uses anvil WC6479 and body 710268

Seal Kit Part Nos.

Cutter Size	22	38	54	75	75H/75HD
Seal Kit No	995 110	995 114	995 118	995 120	995 119
Stainless Seal Kit No	995 140	995 139	995 138	995 142	995 137

Part No's Refer to Tables 1, 2 and 3. Diagram Shows a Cross-Section of Spring Return Closed Body Cutter (Body part number will be different from the one listed if the customer has requested extra holes).

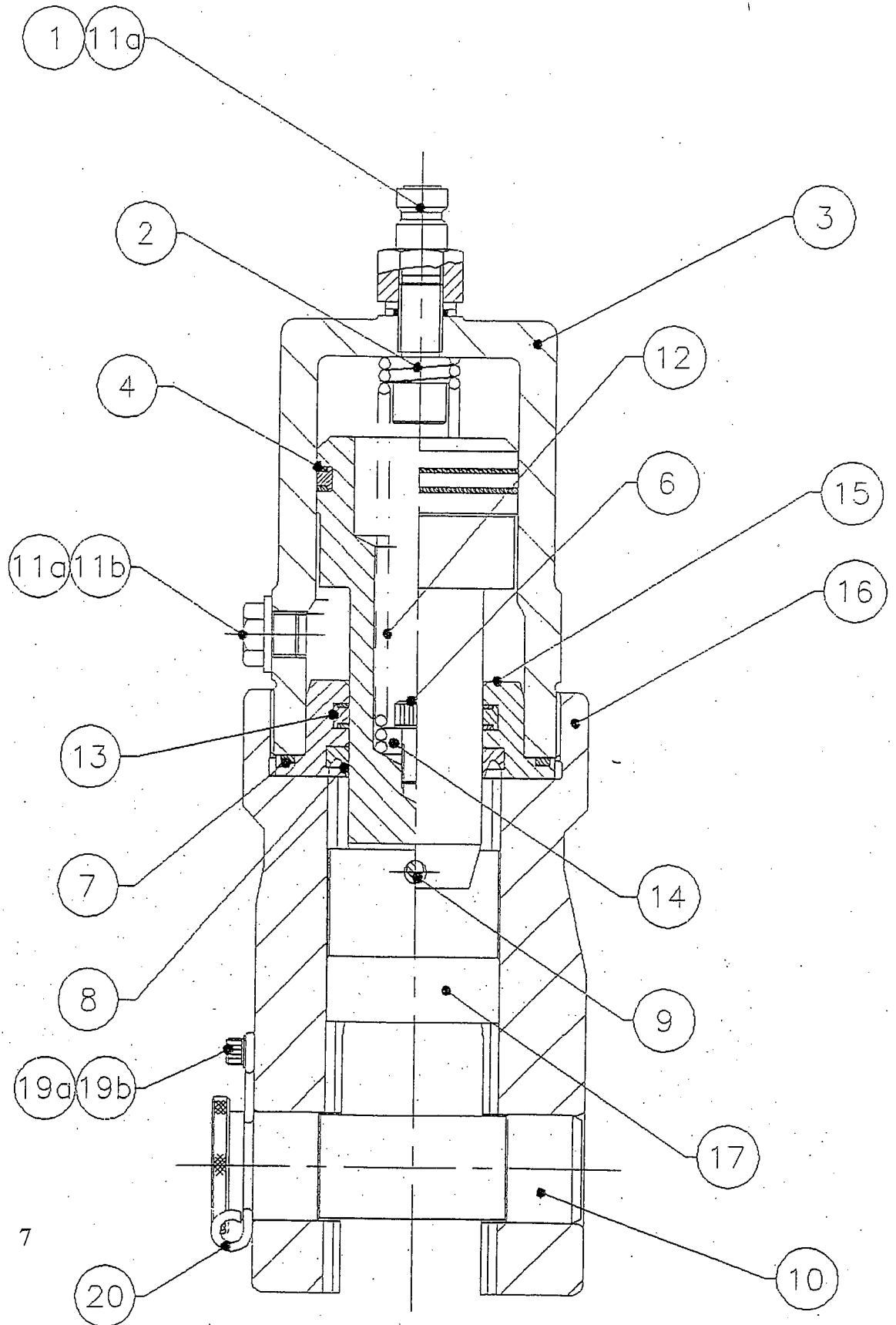


TABLE 3

WCS AND WCOS CUTTER PARTS LIST

Item	Description	Qty	WCS22	WCOS22	WCS38	WCOS38	WCS54	WCOS54	WCS75	WCOS75	WCS75H
1	Coupling	-									
2a	Adaptor	-									
2b	Screwed Fitting	1	715310	715310	715324	715324	715312	715312	715312	715312	-
3	Cylinder	1	728100	728100	728101	728101	728102	728102	728096	728096	728097
4	Piston Seal	1	32-99-1370	32-99-1370	32-99-1372	32-99-1372	32-99-1374	32-99-1374	32-99-1375	32-99-1375	025799
5	Ram	1	764142	764142	764140	764140	764141	764141	764068	764068	764088
6	Bush Screw	1	035052	035052	041516	041516	041525	041525	041525	041525	-
7	Bearing 'O' Ring	1	025769	025769	025770	025770	025771	025771	025772	025772	025788/9
8	Wiper Ring	1	025566	025566	025563	025563	025567	025567	025567	025567	025570
9	Retaining Pin	1	030515	030515	030522	030522	030522	030522	030522	030522	030632 (2)
10	Anvil	1	761273	761277	761274	761278	761275	761279	761276	761276	-
11a	Washer	3									
11b	Blanking Plug	-									
12	Spring	1	788046	788046	788049	788049	788047	788088	788047	788047	-
13	Rod Seal	1	025791	025791	025793	025793	025795	025795	025795	025795	025804
14	Spring Bush	1	715311	715311	715325	715325	715313	715313	715313	715313	-
15	Bearing Ring	1	774022	774022	774023	774023	774024	774024	774027	774027	774026
16	Body	1	710296	710295	710298	710297	710305	710299	710301	710301	710302
17	Blade	1	705031	705031	705012	705032	705013	705041	705014	705014	705009
18	Anvil Screw	1	-	035066	-	035066	-	035079	-	-	-
19b	Anvil Spring Screw	1	035052	-	035052	-	035052	-	035131	035131	035052
19a	Washer	1	080959	-	080959	-	080959	-	080959	080959	080959
20	Anvil Spring	1	788064	-	788064	-	778064	-	778064	778064	778064
ASSEMBLY PART NUMBERS FOR WCS & WCOS VARIATIONS											
	Spring Return		980467	980466	980473	980472	980477	980476	980481	980481	-
	Double Acting		980468	980469	980475	980474	980479	980478	980480	980480	980483
	Double Acting Spring Return			980493	980487	980490	980492	980485			-

Items 2b, 6, 12 and 14 are only used if the cutter is spring return or double acting spring return

WEBTOOL

SOFT LINE CUTTER SL54

Part No. 980232

Operation Instructions for Installation, Operation & Maintenance

Softline Cutter

Product:	SL54
Code:	980 232

Introduction

This tool is a double acting cutter suitable for use on softline rope up to 54mm diameter. It requires a dual line hydraulic supply for operation and is suitable for use subsea.

Two holes tapped M10 are provided in each side of the cutter, see fig. 1, to allow for customer attachments. The thread length is 16mm.

Safety

- The safety aspects of the operation must be reviewed before cutting is commenced.
- The cutting blade is sharp be careful to ensure that hands are kept away from the cutting edge.
- Ensure that the tool, hoses and pump are in good condition and properly connected and that no leakages are evident.
- If the material to be cut is under tension, make a risk assessment with emphasis on the possible recoil of the severed ends.

USE OF BLADES & PARTS NOT APPROVED BY WEBTOOL MAY RESULT IN TOOL FAILURE AND CONSEQUENTIAL DAMAGE.

Cutting Capacity

The cutter is designed to cut softline up to 54mm diameter. This tool is for cutting softline only and **MUST NOT** be used to cut wire rope. Cutting unsuitable materials could result in damage to the tool and/or blade.

Hydraulic Supply Requirements

- Two ports are provided in the tool, one in the end of the cylinder for the power, cutting stroke and one under the cylinder for the return stroke. Both ports are tapped ¼" BSP parallel. The maximum working pressure is 207 bar (3000 psi).
- The tool must not be used on hydraulic supplies that exceed the tool working pressure. It is advisable to incorporate a pressure limiting valve into the supply.

Operation

- Manoeuvre the cutter around the rope to be cut so that it is as far down in the cutter as it will go.
- Operate the hydraulic supply to the power port to sever the rope.

- Switch the hydraulic supply to the return port to retract the blade ready for the next cut.

After Use

- When cutting operations have finished, the tool should be cleaned and inspected. If it has been used in seawater, it should be hosed off with clean water, allowed to drain, and be sprayed with a de-watering fluid.
- Before storage inspect the general condition of the tool. Attention should be paid to the anvil and blade in particular. The blade edge should be smooth and free from damage.

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, this depending on the frequency of use and materials being cut. These parts can be ordered using the following spares reference numbers, but in addition please quote the tool serial number.

Cutter	SL54
Blade	705066
Seal Kit	995145
Anvil	761283

If required the tool can be returned to the manufacturer at any time for servicing and testing.

Replacing the Blade

- Pump out the blade until the blade retaining pin 029416 can be seen under the access hole in the body.
- Drift out the 4 Ø pin to release the blade.
- When fitting the new blade ensure that the pin does not project from either side of the piston 985035.

