

**WIRE ROPE CUTTERS**

**TYPE WC & WCO**

**INSTRUCTIONS, OPERATION &  
MAINTENANCE MANUAL**

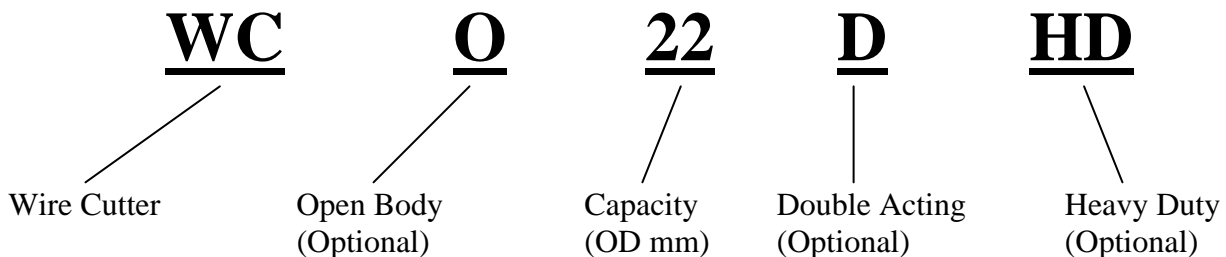
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# WIRE ROPE CUTTERS – TYPE WC & WCO

## THESE INSTRUCTIONS COVER THE FOLLOWING TOOL VARIANTS

- WC\_\_ - Single Acting Spring Return Closed Body Cutters (Models 22, 38, 54 & 75)
- WCO\_\_ - Single Acting Spring Return Open Body Cutters (Models 22, 38 & 54)
- WC75HD - Single Acting Spring Return Closed Body Heavy Duty Cutters (Model 75)
- WC\_\_D - Double Acting Hydraulic Return Closed Body Cutters (Models 22, 38, 54 & 75)
- WCO\_\_D - Double Acting Hydraulic Return Open Body Cutters (Models 22, 38 & 54)
- WC75DHD - Double Acting Hydraulic Return Closed Body Heavy Duty Cutters (Model 75)

## Tool Specification Code



## 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 or others, if in any doubt always arrange shields.

# WIRE ROPE CUTTERS – TYPE WC & WCO

## OPERATING & 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 (10000 PSI).

A good quality ISO22 grade hydraulic oil, e.g. Shell Tellus 22, is suitable.

### Connections:

#### OPERATING PORT

Fitted with Male Q/D

#### RETURN PORT

Fitted with blanking  
Plug on Single Acting  
Tool & with Male Q/D  
on Double Acting Tool

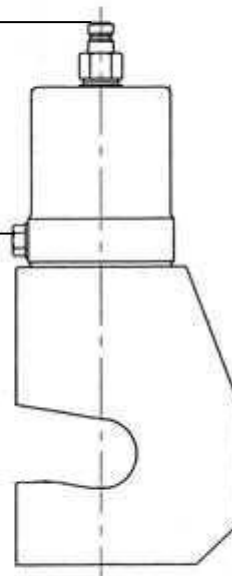


FIG. 1

### 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 to cut.

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

For open body cutters, type WCO, the wire rope 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.

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## Cutting Capacity:

The cutter is designed to cut wire rope upto 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 rope having an ultimate tensile strength of 1770 N/mm<sup>2</sup>. 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 is necessary, other than to keep the tool clean and free from debris.

In the event the cutter is used in seawater, following retrieval, the cutter should be hosed off with clean fresh water, allowed to drain and then sprayed externally with a de-watering fluid such as WD40.

Replaceable parts in normal service are the blade and anvil, please refer to table 1 for part numbers. The life of the anvil may be extended by rotating it slightly to present new cutting surfaces to the wire and blade.

Seal kits are also available, please refer to table 1 for part numbers.

**Table 1:**

CUTTER SIZE WC/WCO	22	38	54	75	75HD
BLADE PART NO.	SEE TABLE 2, ITEM 17				
ANVIL PART NO.	SEE TABLE 2, ITEM 10				
SEAL KIT PART NO.	995110	995114	995118	995120	995119

## Blade renewal: (Numbers in brackets refer to Tables 2&3 and Figures 2&3)

To change the blade the following procedure should be adopted.

Extend 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 the blade (17).

When fitting a new blade, ensure the retaining pin is below the surface of the ram (5) on both sides. The part numbers of the pins are shown in table 2.

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**Cutter Disassembly:** (Numbers in brackets refer to Tables 2&3 and Figures 2&3)

Remove the blade as previously described, then disconnect the operating hose and unscrew the Q/D coupling (1). Use the appropriate extended length\* hex wrench to pass through the adapter (2) and unscrew the screw (6), thereby releasing the spring assembly.

\* 5” long, 4mm A/F for cutter sizes 22 & 38 and 6mm A/F for cutter sizes 54 & 75. The 6mm wrench must be reduced to 7/32” diameter for half its length.

“T” bar hex wrenches are available, P/N SK3547 for the 4mm and P/N SK3548 for the 6mm.

Unscrew the body (16) from the main cylinder (3) then pull out the piston (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 (3).

**Cutter Re-Assembly:** Single Acting WC/WCO Type (Numbers in brackets refer to Table 2 & Figure 2)

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 piston (5) and the piston into the cylinder (3). Screw the body (16) 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 the blade (17) to maintain angular location. Hold in the retracted position. Insert hex wrench into screw (6), press down and rotate to engage thread, screwing till nipped tight. Refit the coupling (1), connect hose and then pump out piston until the hole for the retaining pin (9) is visible through the body. Fit retaining pin (9) then test the cutter ready for use.

**Cutter Re-Assembly:** Double Acting WC/WCO Type (Numbers in brackets refer to Table 3 & Figure 3)

Make sure all parts are clean and smear all seals with grease before assembly. Fit couplings (1), 2 off, to cylinder (3). Ensure adapter does not protrude into the cylinder bore. Place the ram bearing ring (15) onto piston (5) and the piston into the cylinder (3). Screw the body (16) 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 the blade (17) to maintain angular location. Hold in the retracted position. Connect hose and then pump out piston until the hole for the retaining pin (9) is visible through the body. Fit retaining pin (9) then test the cutter ready for use.

# WIRE ROPE CUTTERS – TYPE WC & WCO

**Table 2: (Single Acting Cutter WC/WCO Type)**

Item	Description	Qty	PART NUMBER							
			WC22	WCO22	WC38	WCO38	WC54	WCO54	WC75	WC75HD
1	Coupling	1	791123							
2	Screwed Fitting	1	715310		715324		715312			
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
6	Screw	1	041316		041516		041525			
7	Bearing Ring	1	025769		025770		025771		025772	025788
	O-Ring	1								+ 025789
8	Wiper Seal	1	025566		025563		025567			025570
9	Retaining Pin	1	035515		030522				030632 (2)	
10	Anvil	1	WC6387	WC6386	WC6388	WC6403	WC6390	WC6484	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			025804
14	Spring Bush	1	715311		715325		715313			
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	

# WIRE ROPE CUTTERS – TYPE WC & WCO

**Table 3: (Double Acting WC/WCO Type)**

Item	Description	Qty	PART NUMBER							
			WC22	WCO22	WC38	WCO38	WC54	WCO54	WC75	WC75HD
<b>1</b>	Coupling	2	791123							
<b>2</b>	Adapter	2	726356							
<b>3</b>	Cylinder	1	728031		728032		728033	728068	728034	728045
<b>4</b>	Piston seal	1	32-99-1370		32-99-1372		32-99-1374		32-99-1375	025799
<b>5</b>	Ram	1	764065		764066		764067	764108	764068	764088
<b>7</b>	Bearing Ring	1	025769		025770		025771		025772	025788
	O-Ring	1								+ 025789
<b>8</b>	Wiper Seal	1	025566		025563		025567			025570
<b>9</b>	Retaining Pin	1	035515				030522			030632 (2)
<b>10</b>	Anvil	1	WC6387	WC6386	WC6388	WC6403	WC6390	WC6484		WC6391
<b>11a</b>	Washer	2	32-07-0804							
<b>13</b>	Rod Seal	1	025791		025793		025795			025804
<b>15</b>	Bearing Ring	1	774022		774023		774024		774025	774026
<b>16</b>	Body	1	710238	710237	710239	710243	710241	710271	710242	710264
<b>17</b>	Blade	1	705011	705031	705012	705032	705013	705041	705014	705033
<b>18</b>	Screw	1	N/A	035066	N/A	035066	N/A	035079	N/A	N/A
<b>19a</b>	Washer	1	080959	N/A	080959	N/A	080959	N/A		080959
<b>19b</b>	Screw	1	035052	N/A	035052	N/A	035052	N/A		035052
<b>20</b>	Anvil Spring	1	788064	N/A	788064	N/A	788064	N/A		788064

# WIRE ROPE CUTTERS - TYPE WC & WCO

Part No's refer to Table 2

Diagram shows a Cross-Section of a Spring Return Closed Body Cutter

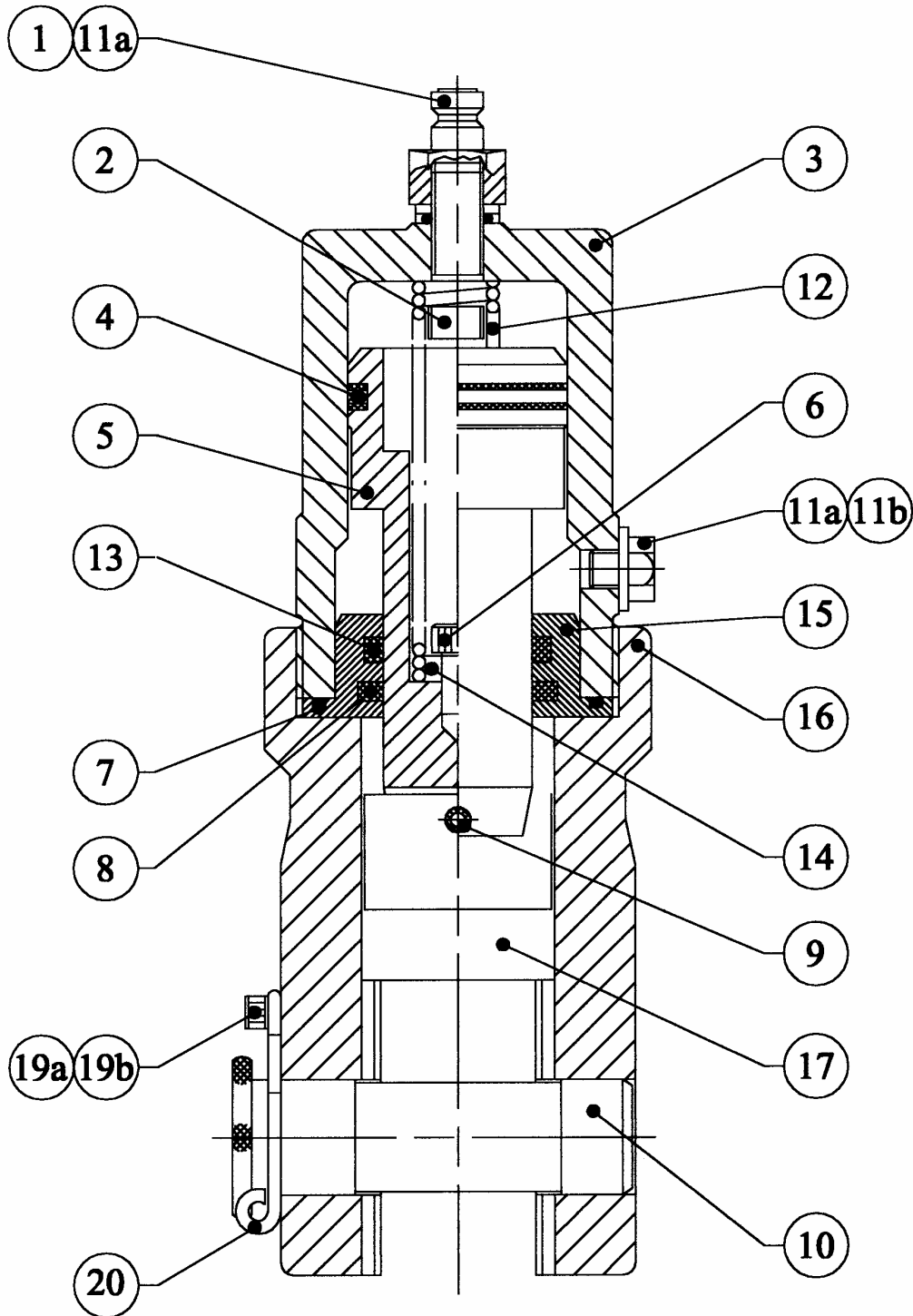


FIG. 2

# WIRE ROPE CUTTERS - TYPE WC & WCO

Part No's refer to Table 3

Diagram shows a Cross-Section of a Double Acting Open Body Cutter

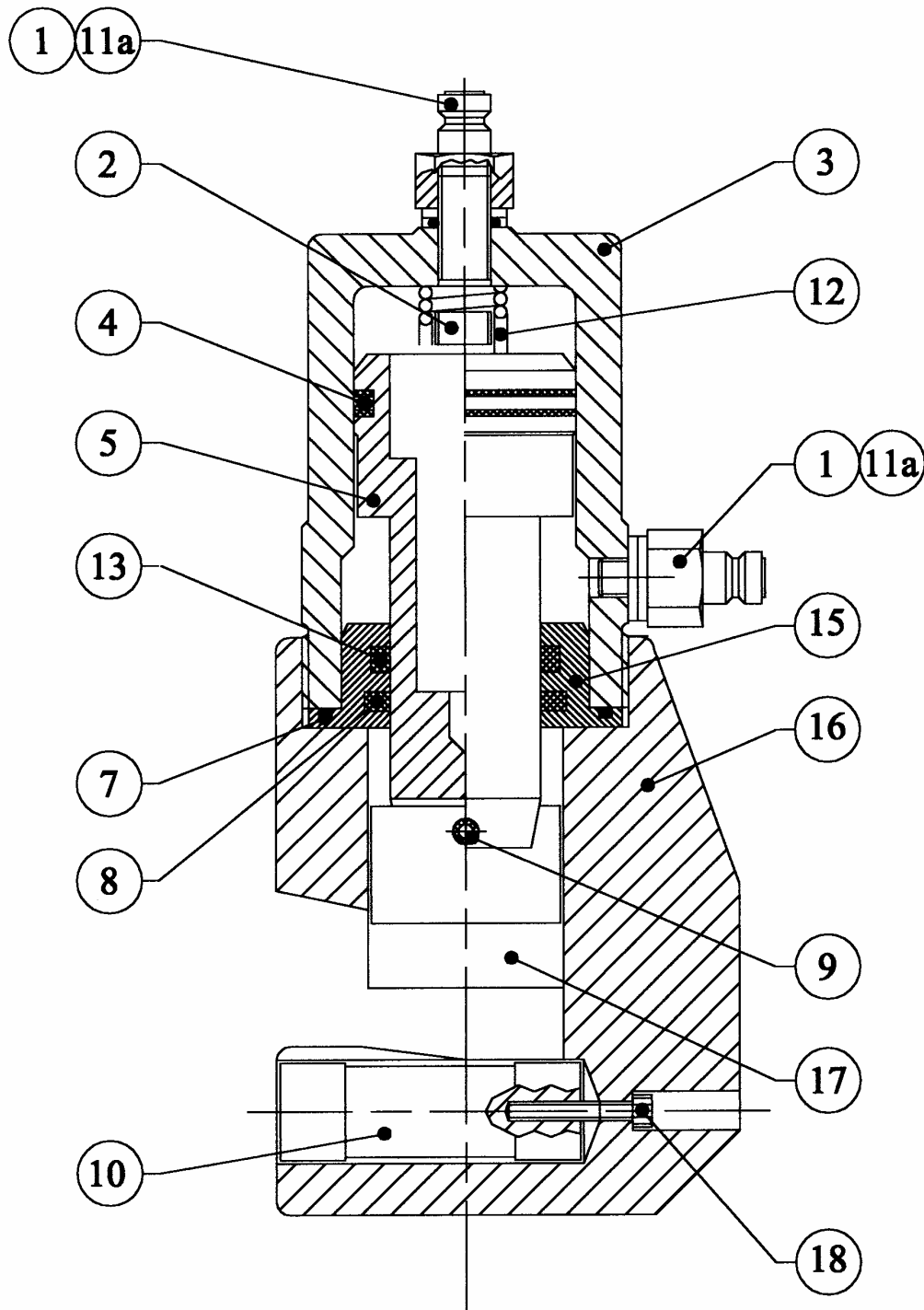


FIG. 3