

# CABLE ARM, INC.

ENVIRONMENTAL HYDRAULIC CLAMSHELL  
**DESIGN REMOVAL CUT - 12" or 0.3m DEPTH**



LEVEL CUT – OVERLAPPING SIDELATES – LARGE  
OVERSQUARE FOOTPRINT – LOW HEIGHT – LOW  
WATER CONTENT – MINIMUM RESUSPENSION –  
PASSIVE VENTING SYSTEM – LOW CENTER POINT –  
LOW WINDROW – HIGH CLOSING FORCE – 150°  
CUTTING EDGE – DEBRIS TEETH AVAILABLE

**2016**

**LEADER IN THIN CUT SEDIMENT REMOVAL**

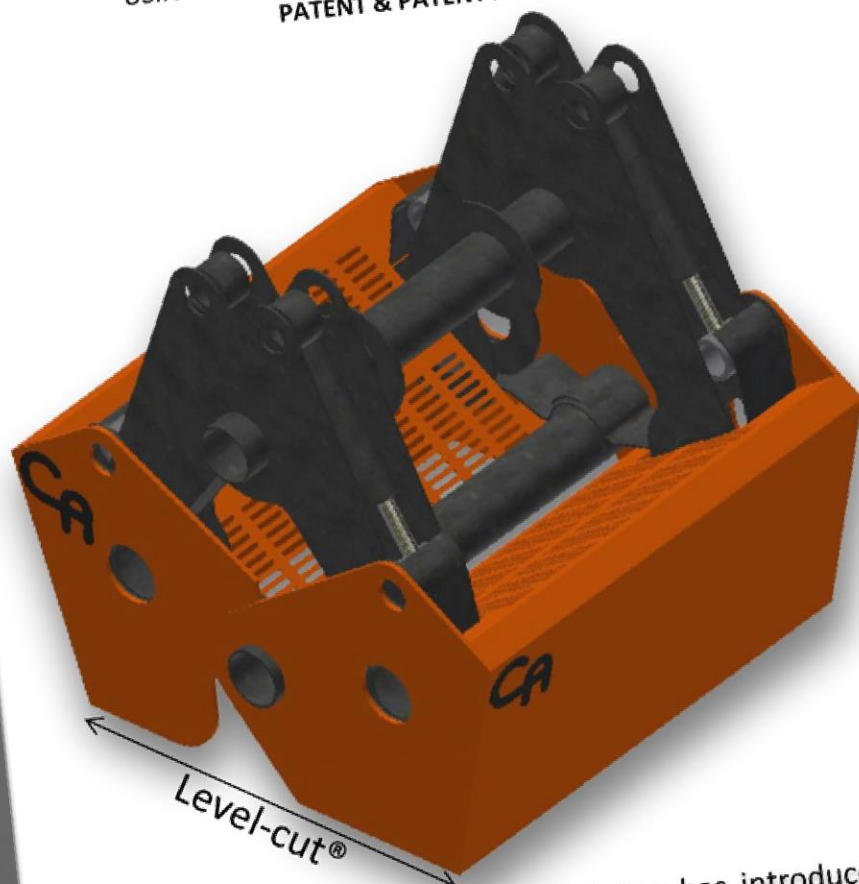
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ENVIRONMENTAL

## ENVIRONMENTAL HYDRAULIC CLAMSHELL

USING SWING ARM WITH PUSH CLOSING CYLINDERS  
PATENT & PATENT PENDING



The Cable Arm hydraulic clamshell line has introduced the most innovative, environmental hydraulic bucket available on the market. The standout feature is the hydraulic cylinder's unmatched force provided by its mounted swing arm location. Given the high force exertion, the bucket is capable of excavating harder, more dense material loads.

LEVEL – CUT®
OVERLAPPING SIDEPLATES W/ SEALS
LARGE OVERSQUARE FOOTPRINT
LIGHT WEIGHT
LOW WATER CONTENT
MINIMUM RESUSPENSION
PASSIVE VENTING SYSTEM
LOW CENTER POINT
LOW CENTER PIN
LOW WINDROWING
HIGH CLOSING FORCE AT CUTTING EDGE
150° CUTTING EDGE
TAPER/SLOPING PROFILE
360° SWIVEL
DEBRIS TEETH AVAILABLE

ENVIRONMENTAL CLAMSHELL DATA BASED ON HEAPIING BUCKET AT 12" DEPTH OF CUT				
CENTER PIN TO CUTTING EDGE DISTANCE (FT)	Sizes from 0.5 yard <sup>3</sup> to 30 yard <sup>3</sup> in swing arm design			
	CAPACITY (YARDS <sup>3</sup> )	AREA (FT <sup>2</sup> )	FOOTPRINT (FT)	WEIGHT (LB)
2	0.5	14	3.5 X 4.0	2200
2	1.0	27	3.5 X 8.0	3000
3	2.0	54	5.4 X 10.0	4500
4	3.0	81	7.0 X 11.5	5400
5	4.0	108	9.5 X 11.5	6500
6	5.0	135	10.5 X 12.9	8500
7	6.0	162	12.0 X 13.5	12000

Sizes, footprint, weighs subject to change without notice base on dredge material.

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## ENVIRONMENTAL HYDRAULIC CLAMSHELL

### DESIGN FEATURES

LEVEL CUT® – creates a nearly flat over square cut, ideal for even removal of sediment.

OVERLAPPING SIDELATES WITH SEALS – minimizes lateral movement of material during bucket closure, reducing windrowing.

LARGE OVERSQUARE FOOTPRINT – width greater than opened length.

LIGHT WEIGHT – allows for more sediment removal per cable size.

LOW WATER CONTENT – reduces water load weight while increasing sediment content and reducing processing costs during environmental cleanup.

MINIMUM RESUSPENSION – provide successful remediation by minimizing the spread of contamination by bucket design.

PASSIVE VENTING SYSTEM – minimizes downward pressure, seals in material, prevents water from washing material out during lifting, and drains excess water when it reaches the surface.

LOW CENTER POINT – keeps the material mass at a low point of gravity which keeps it from pushing material out of the bucket sides during closure, and washing out during ascension.

LOW CENTER PIN – the pin to cutting plane distance is the lowest available on the market, providing downward pressure from excavator, faster opening and closing, and reducing cycle time.

LOW WINDROWING – keeps material inside the bucket, minimizes resuspension, and maximizes contamination removal.

HIGH CLOSING FORCE AT CUTTING EDGE – allows the bucket to cut through harder material and remain closed during ascension.

150° CUTTING EDGE – scoops the material instead of squeezing.

TAPER/SLOPING PROFILE – allows for angled, lateral movement along an inclined bottom. Previously, over dredging in 'steps' and additional capping were required. (angle up to 3,1)

360° DEGREE SWIVEL- designed to handle downward pressure.

MATERIAL – HARDOX 400F to 500F, custom sizes available.

DEBRIS TEETH AVAILABLE – for harder, compact material excavation and debris removal.





# EXCAVATOR SENSORS

**NO CONTACT OR BOUNCING EFFECT**



The CAP ENCODER is designed to meet the requirements of harsh environment work. We combined a non-contact sensor, rugged enclosure, and wet mateable connectors and cabling along with 20+ years of marine construction experience to provide a sensor that will withstand the environment and accuracy specs of any project.

- **Non-contact-** works in water, oil, and grease. Resistant to shock and vibration.
- **High accuracy-** 18bits, 262,144counts per rev, 4.94 arc-secs, 24 micro-rads, .0014 degrees
- **Wet mateable connectors-** Teledyne Impulse or equivalent
- **Rugged Housing-** salt or fresh water
- **USA sold and supported-** reduced lead times and costs. Cable Arm support.

#### Electrical

**Data Outputs-** RS422, SSI1-8, ASI, or SPI  
**Power supply-** 12 or 24 VDC  
**Current Consumption-** <100mA, <75mA typical  
**Reverse Polarity-** Yes. To max voltage

#### Applications:

- Excavator arms
- Machine or bucket rotation
- Outdoor winches
- Swing arm rotation
- Custom applications

#### Measurement Performance

**Measurement-** Absolute over 360 degrees  
**Resolution-** 18bits, 262,144counts per rev, 4.94 arc-secs, 24 micro-rads, .0014 degrees  
**Repeatability-** +/- 1 count  
**Internal Update Rate-** <.1 Millisecond  
**Max Speed for Angle Measurement-** 9,000 RPM  
**Max Physical Speed-** 10,000 RPM



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