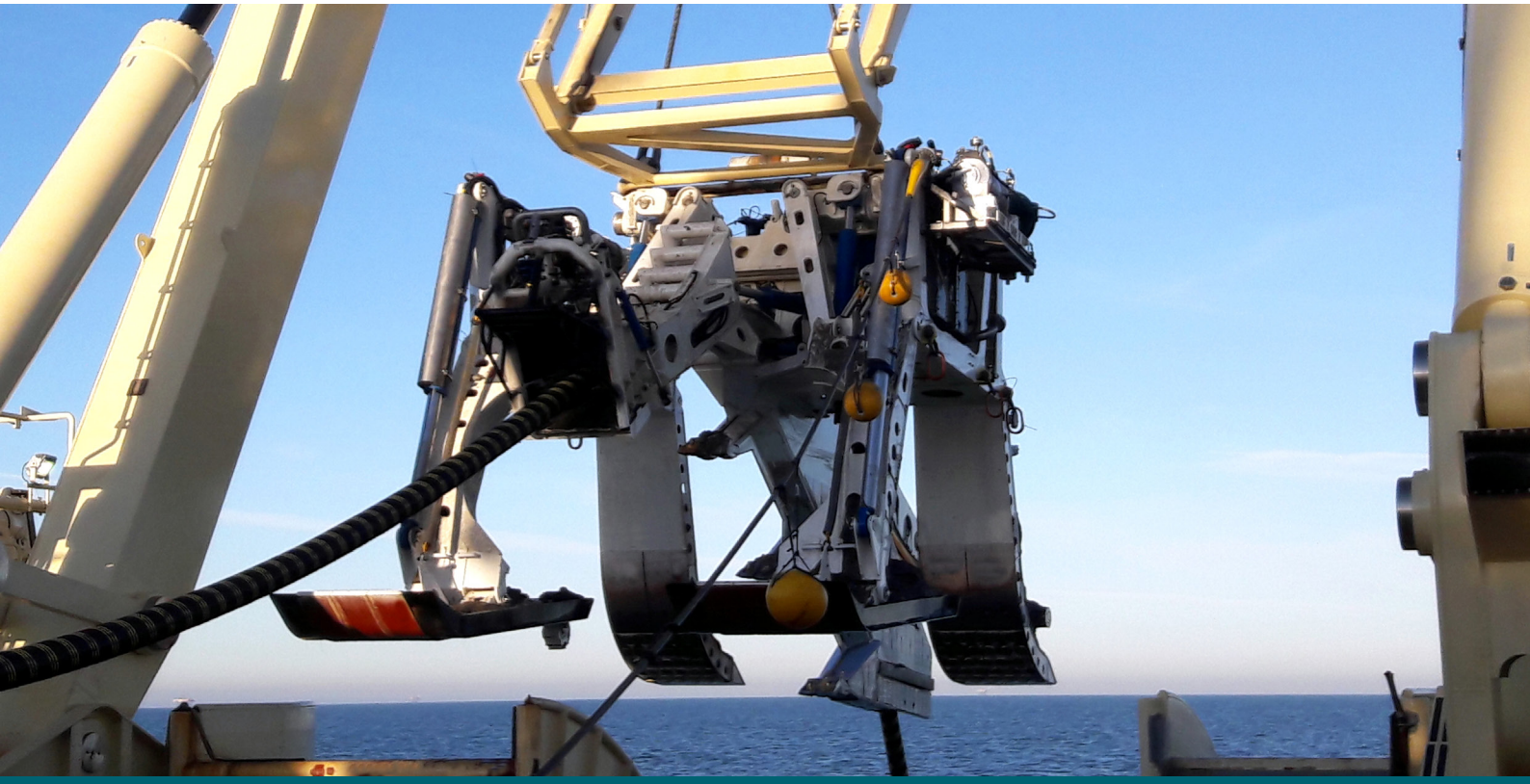
DEEPOCEAN

ACP2

SPECIFICATION SHEET



ADVANCED CABLE PLOUGH

The ACP2 is the first plough in the offshore industry fully designed for optimum performance in all areas, but specifically for the safe handling of large diameter power cables.

Incorporating an aggressive share design with multiple forecutters, the ACP2 is unique in its ability to accommodate up to 300mm diameter product with a 5m minimum bend radius and offer both on deck and seabed cable loading / unloading capability. The plough offers variable depth control via hydraulically actuated skids to enable safe burial from 0m to 3.3m. The plough has a powerful 150kW anti-cavitation jetting system capable of operating in water depth starting as little as 0.5m to reduce seabed resistance and tow loads.

Comprehensive instrumentation and surveillance for control and monitoring during ploughing is enhanced by a pivoting bellmouth that allows superior handling of the cable and a reduced cable wrap angle for product safety during launch and recovery. An industry proven mechanical link bridle system is utilised for efficient steering, whilst minimizing plough complexity.

The ACP2 utilises a sophisticated Launch and Recovery system, using a hydraulically dampened, wide angle A-Frame and traversing carriage for superior control during launch and recovery. The tow winch provides hydraulic render up to 150 tonnes, fixed lift lower at 64 tonne safe working load and 5-35 tonne constant tension for fast and reliable tow rope handling during ploughing and launch and recovery operations.

KEY FEATURES

- VARIABLE DEPTH CONTROL TO 3.3M
- AGGRESIVE MULTIPLE FORECUTTER SHARE DESIGN
- PIVOTING BELLMOUTH FOR IMPROVED CABLE HANDLING
- 150KW JETTING SUPPLY TO SHARE
- UNIQUE LARGE BEND RADIUS OF 5.0M
- SHALLOW WATER JETTING CAPABILITY (0.5M)
- SOPHISTICATED LARS AND TOW WINCH SYSTEM
- SUBSEA LOADING / UNLOADING CAPABILITY

The ACP2 Plough is not limited to these parameters and can be modified by DeepOcean to complete workscopes in excess of its current configuration.

SPECIFICATION SHEET

PARTICULARS

MAX. OPERATING DEPTH	0 to 1000m
MAX. CABLE DIAMETER	300mm
PRODUCT MBR	5.0m
MAX. TRENCH DEPTH	3.3m
TOW FORCE	150Te
LENGTH	15.2m
WIDTH	5.4m
HEIGHT	6.0m
WEIGHT IN AIR	44Te

BURIAL TOOL

SHARE DESIGN	Aggressive multi-tip share design
DEPTH CONTROL	Continuously variable between 0m and 3.3m using actuated front skids and stabilisers
SUBSEA JETTING	150kW patented anti-cavitation water pump delivering high flow, low pressure share tip jetting to reduce seabed resistance starting in water depths little as 0.5m

SOIL TYPE

Suitable for a range of soil types, including sand, soft to hard clay and weathered weak rock

CONTROL & CABLE HANDLING

STEERING	Mechanical link bridle steering system combining efficient tow rope plough steering at +10º whilst minimizing plough complexity
LOADING / UNLOADING	Accommodates subsea crane for subsea loading / unloading
HANDLING	Cylinder actuated pivoting bellmouth and cable trough
DEPRESSOR	Slew functionality for cable loading
INSTRUMENTATION	Cable tension - depressor Port & Starboard tow force Lay cabin tension (in chassis over bend plate)

PLOUGH SURVEILLANCE & POSITIONING

CAMERAS	5x Explorer-Pro, high resolution, monochrome CCD cameras
LAMPS	6 x Bowtech 3200 LED lamps with dimming
OBSTACLE AVOIDANCE	Hi-resolution 2D imaging sonar Tritech Gemini / Kongsberg MS1000
PROFILING SONAR	Tritech Super SeaKing dual frequency profiler for mean seabed level measurement
HYDROPHONE	A hydrophone is provided with an integral pre-amplifier
ACOUSTIC POSITIONING	Interface for Transponder/Responder

A-FRAME

CONFIGURATION	Hydraulically dampened, wide angle traversing A-frame
SWL	64Te (latched and unlatched load)
SEA STATE	Sea state 5
DIMENSIONS	Outreach approx. 13.4m from A-frame leg pivot Clear distance between legs approx. 12m
WORKING ARC	45° to 160° from horizontal inboard
FLEETING	Roller and stabilising frame can be moved along cross beam by hydraulic cylinder mounted inside roller. Total fleeting distance 3.8m

TOW WINCH

CONFIGURATION	Open Frame
TOW WIRE	1500m
HOIST SPEED	30m/min with 60Te load
RENDER	Up to 150Te @ 100m/min
CONSTANT TENSION	5 - 35Te