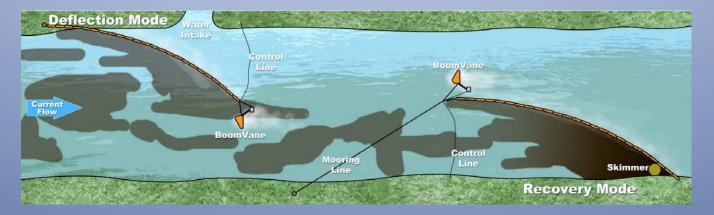
BoomVane™



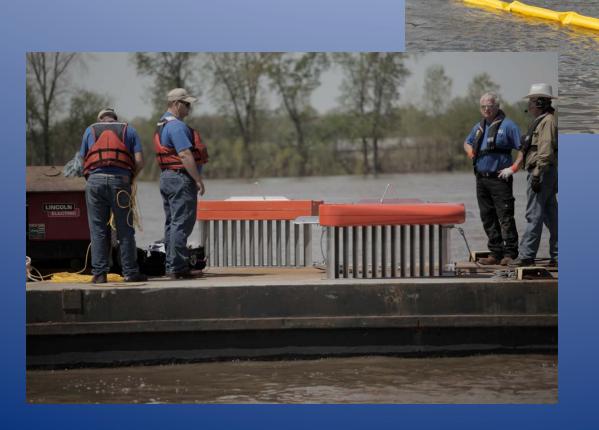


BoomVane™



BoomVane™ is a device for deploying oil containment boom into shallow rivers and other waterways by harnessing the power of the current. This BoomVane™ is designed for both shore based and vessel operations with shallow draft oil boom.

BoomVane™ is constructed as a cascade of vertical wings mounted in a rectangular frame. Powered by the current, the BoomVane™, held by a single mooring line only, swings out towards the opposite shore with the oil boom in tow. This powerful yet light and handy tool enables rapid boom deployment - it can be operated in waters with heavy traffic since the control rudder allows for fast and effortless system retrieval from mid-stream.





Materials:

Frame, vanes, rudder & stabilizer wing: Marine grade aluminum Float: GRP, foam-filled (EPS & PU), in padded PVC carrying bag

Connector plate, pins, bolts: all stainless steel

Shackles: Stainless steel

Mooring/tow line:

100m / 320ft of 10 mm dia Dyneema SK 75 double braid (break load >5000 kg), stainless steel thimble, PU float and PVC line bag

Bridle line: Dyneema SK 75 dia 10 mm

Control line: 150m / 492ft 4mm dia float line on reel

Blocks: Ronstan industrial series

Control rudder return springs: Plastic coated GRP rods, aluminum holders

Draught: 0.5m / 21 inch

Overall dimensions & weight:

Wing unit: 1785 x 310 x 505 mm / 70 x 12 x 20 inch 35 kg / 77 lbs Float unit: 1400 x 205 x 800 mm / 55 x 8 x 32 inch 16 kg / 35 lbs

Performance:

Water speed range: 1-5 knots

Boom length: 75 – 90m / 250 – 300 ft shallow draught boom (not included)

(typical - varying with type/size of boom and site conditions)









Materials:

Frame, vanes, rudder & stabilizer wing: Marine grade aluminum Float: GRP, foam-filled (EPS & PU), in padded PVC carrying bag

Connector plate, pins, bolts: all stainless steel

Shackles: Stainless steel

Mooring/tow line:

150m / 492ft of 12 mm dia Dyneema SK 75 double braid (break load >7000 kg),

stainless steel thimble, PU float and PVC line bag

Bridle line: Dyneema SK 75 dia 10 mm

Control line: 150m / 492ft 4mm dia float line on reel

Blocks: Ronstan industrial series

Control rudder return springs: Plastic coated GRP rods, aluminum holders

Draught: 1.1m / 43 inch

Overall dimensions & weight:

Wing unit: $1785 \times 310 \times 1012 \text{ mm} / 70 \times 12 \times 40 \text{ inch } 46 \text{ kg} / 101 \text{ lbs}$ Float unit: $1400 \times 205 \times 800 \text{ mm} / 55 \times 8 \times 32 \text{ inch } 16 \text{ kg} / 35 \text{ lbs}$

Performance: Water speed range: 1-5 knots

Boom length: 100-150 meter (300-500 feet) shallow draught boom (not included)

(typical - varying with type/size of boom and site conditions)











Materials:

Frame, vanes, rudder & stabilizer wing: Marine grade aluminum

Float: GRP, foam-filled (EPS & PU), in padded PVC carrying bag

Connector plate, pins, bolts: Stainless steel

Shackles: Stainless steel

Mooring/tow line:

Dyneema SK 75 double braid stainless steel thimble, PU float and PVC line bag

Blocks: Ronstan industrial series

Draught: 1.6m / 62 inch

Overall dimensions & weight:

Wing unit: 2500 x 410 x 1850 mm / 98 x 16 x 72 inch 250 kg / 550 lbs Float unit: 2350 x 205 x 1300 mm / 92 x 8 x 51 inch 30 kg / 66 lbs

Performance: Water speed range: 1-5 knots

Boom length: 100-150 meter (300-500 feet) Near Shore or Coastal boom (not included)

(typical - varying with type/size of boom and site conditions)

Also suitable for offshore sweeping systems.







Specifications;

Frame, vanes, rudder & stabilizer wing: Marine grade aluminum Arm/cascade hinges:

Stainless steel A4 (Nord-lock)

Tow Bridle: 150 m Ø 18 mm 26,5 ton SK78 mooring/tow lines 18 mm Dyneema SK78 single

braid, soft eye, PU float and PVC line bag

Shackles, bolts, lift bridle: A4 stainless steel
Float fender: Neoprene Trellex 60

Float filling: Polystyrene

Draft: 2100 mm / 83 inches Weight: 550 kg / 1,212 lbs

Shipping dimensions on a heavy duty pallet: 3.9 x 2.2 x 1.7m 900kg







The BoomVane Spray has been developed with funding from NOFO (Norwegian Clean Seas Association for Operating Companies). The objective of this joint effort was to come up with a spray system that would apply dispersant from small coastal vessels. The resulting system has been extensively tested and offers a number of advantages over conventional ship mounted units;

- Wider spray width than conventional arms (20m)
- Dispersant is applied at correct droplet size and height for effective dispersion of the oil
- Dispersant is applied well away from the towing vessel and personnel
- Dispersant can be applied close into shore without putting vessel at risk (ideal for deep and high energy shorelines)
- High application accuracy

Dispersant application can be performed at 4 to 5 knots and in wind speeds up to Beaufort 5.



BoomVane;

Vanes, rudder & stabilizer wing, frame : Marine grade aluminum

Float: GRP, foam-filled (EPS & PU), in padded PVC

carrying bag

Connector plate, pins, bolts: Stainless steel
Shackles: Stainless steel

Mooring/tow line:

150m / 492ft of 12 mm dia Dyneema SK 75 double braid

(break load >7000 kg), stainless steel thimble, PU float and PVC line bag

Bridle line: Dyneema SK 75 dia 10 mm

Control line: 150m / 492ft 4mm dia float line on reel

Blocks: Ronstan industrial series

Control rudder return springs: Plastic coated GRP rods, aluminum holders

Draught: 1.1m / 43 inch

Tow Tower: With adjustable stays and tension line winch, towline bollard and base

plate kit for boat installation, rigging.



Pump set;

Engine: Yanmar L70 Diesel engine with electric start and hand start. Spark arrester

Pump: Self-Priming side channel pump. 100 Litres per minute @ 3 bar

Pipework: Stainless steel

Frame: Stainless steel with a set of removable wheels and axle

Flow Meter: 1 x Outlet flow meter Valves (Manual): 1 x Flow control valve

Hose Line: 25m x nozzle hose line with 13 nozzles and ss Wichard hooks

Nozzles: 13 with ss check valves. Valves: 1 x ss drain valve assembly

Hoses: 1 x 5m delivery hose

1 x 5m dispersant suction hose with foot valve and strainer







