

OTTER PUMPING SYSTEM



COMPOSITE ULTRA-LIGHTWEIGHT FLOATING SUBMERSIBLE PUMP SYSTEM

The Otter™ is a hydraulically powered ultra-lightweight, high-volume, composite floating submersible pumping system used for remote water supply sourcing and emergency dewatering operations.

The power unit can be mounted on a vehicle or trailer with a minimum 3600 lb (1633 kg) payload and a 6.5 ft (2.0 m) or longer bed. With its standard 100 ft (30 m) hydraulic umbilical, the Otter has considerable versatility to access open water sources that a typical fire pumper or draft pump cannot reach.

The Otter system's SP2 floating submersible pump uses the latest advancements in structural composite technology to achieve an ultra-lightweight design that is physically manageable by one or two emergency responders. The Otter is well suited in supplying pressurized water to downstream apparatus, dewatering flooded infrastructure and pumping brine solutions and contaminated fluids such as chemical and oil spills.



10 FEATURES AND BENEFITS OF THE OTTER PUMP

1. Portable "floating hydrant" providing reliable high-volume positive pressure water supply
2. Superior corrosion-proof casing and impeller composite construction for saltwater applications
3. No priming or drafting required
4. Increases access to more open water sources
5. Physically manageable by one or two emergency personnel
6. Deployment flexibility over a wide variety of terrain
7. Improved water shuttle operations by eliminating stationary draft engine, decreasing tanker/tender fill times
8. Easily refueled while operating
9. Power unit skid air-liftable and can be located remotely away from water source
10. Uses non-toxic biodegradable hydraulic fluid



OTTER PUMP SPECIFICATIONS



POWER UNIT

- Tier 3: 140 HP (104 kW) Deere
- Tier 4/EuroV: 134 HP (100 kW) Kohler
- Diesel Cap.: 30 Gal (114 L) stainless steel tank
- 4-Hour run-time at 100% load

HYDRAULIC POWER SYSTEM

- Closed loop system with variable displacement hydraulic pump
- Eco-friendly biodegradable hydraulic fluid
- 13 gallon (50 L) stainless steel hydraulic tank

ENCLOSURE SKID

- Dimensions
 - Length: 80" (2032 mm)
 - Length (w/drag bars): 94" (2388 mm)
 - Width: 50" (1270 mm)
 - Height: 66" (1676 mm)
- Structural steel skid and lifting frame with sealed fluid containment skid
- Aluminum panels
- Transverse and longitudinal forklift pockets
- Total system weight: ~3600 lbs (1633 kg)
- Interior and Exterior LED lighting

TRANSPORTATION MODES

- 4x4 Pickup
- Tow-behind trailer
- Airlift capable

HOSE REEL

- Standard 100 ft (30 m) hydraulic umbilical
- Lightweight, abrasion resistant polymer hydraulic line
- Quick connect hydraulic fittings for submersible pump

CONTROL SYSTEM

- Rugged Plus+1 Control screen
 - Available with physical buttons or touchscreen
 - Monitor and control engine and hydraulic power systems
- Emergency Stop
- IP65 Enclosure Rating
- "Smart Charger" Technology



PUMP TYPE

The Otter uses the SP2 submersible pump, a carbon fiber-reinforced polymer composite pump unit. With strength comparable to steel, the SP2 casing and impeller are corrosion-proof in saltwater and provide an ultra-lightweight design.

- 6" Outlet
- Weight: <100 lbs (45 kg)
 - with 41cc motor
- 41 CC Hyd. Motor: <2000 GPM
- 63 CC Hyd. Motor: Up to 3000 GPM
- Formed fiberglass or aluminum suction screen/base
- 4-wheel rolling chassis
- Foam-filled pontoon flotation

Pump Nominal Performance Table

Flow (GPM)	Flow (LPM)	Head (ft)	Head (m)	Head (PSI)	Head (bar)
750	2839	346	105	150	10.3
2000	7571	120	37	52	3.6
3000	11356	67	20	29	2.0

OTTER PUMP SPECIFICATIONS



Right Side (panels removed)



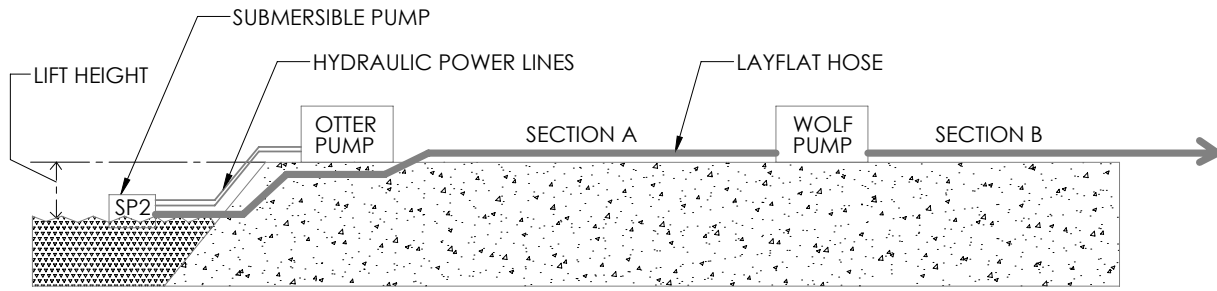
Left Side (panels removed)



Trickle charging port and "jumpstart mounts"



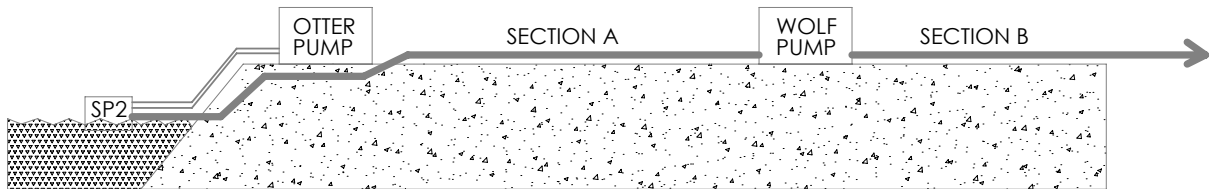
DEF fill port (Tier 4/Euro V only)



SECTION A: REFER TO "Otter Standard Pumping Distance - 3000 GPM, Rev. 220913"

TABLE 1: SECTION B HOSE LOSS PER 100 METERS

FLOW (LPM)	HOSE SIZE	# OF HOSES	LOSS PER 100 METERS (BAR)
3785	5	1	1.2
3785	5	2	0.35
7571	5	2	1.2
7571	5	4	0.35
11356	5	2	2.65
11356	5	4	0.74



SCENARIO 1: 3000 GPM (11356 LPM), LIFT HEIGHT 5 METERS, 2 X 5" LAYFLAT HOSE

SECTION A (DISTANCE FROM SUBMERSIBLE TO WOLF (RELAY) PUMP): ~50 METERS

SECTION B (MAXIMUM DISTANCE WOLF CAN PUMP DOWNSTREAM AT RATED FLOW): ~ 390 METERS

SCENARIO 2: 3000 GPM (11356 LPM), LIFT HEIGHT 5 METERS, 4 X 5" LAYFLAT HOSE

SECTION A (DISTANCE FROM SUBMERSIBLE TO WOLF (RELAY) PUMP): ~200 METERS

SECTION B (MAXIMUM DISTANCE WOLF CAN PUMP DOWNSTREAM AT RATED FLOW): ~ 1400 METERS