

Water Movement in a Reef Tank

Kim Gross

Jim Turnbough

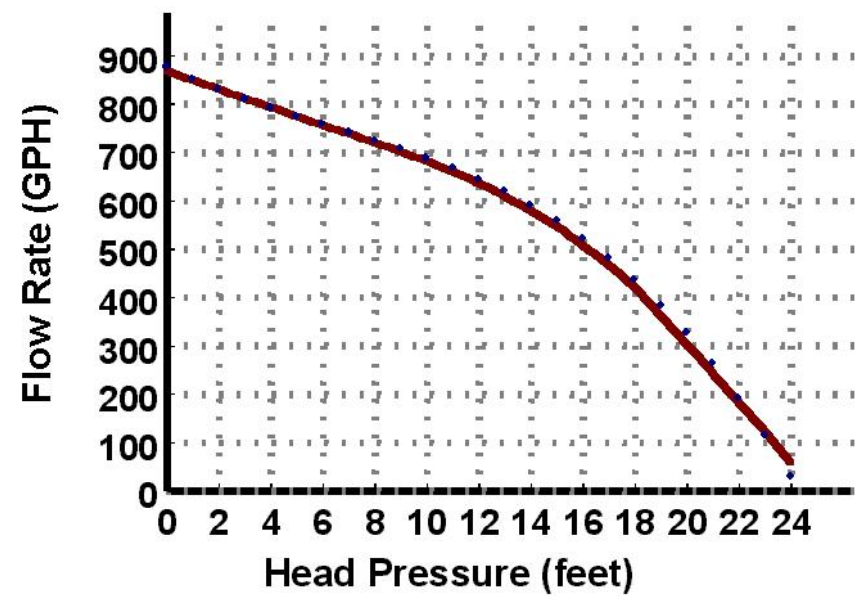
Scott Morell

Reference Sites

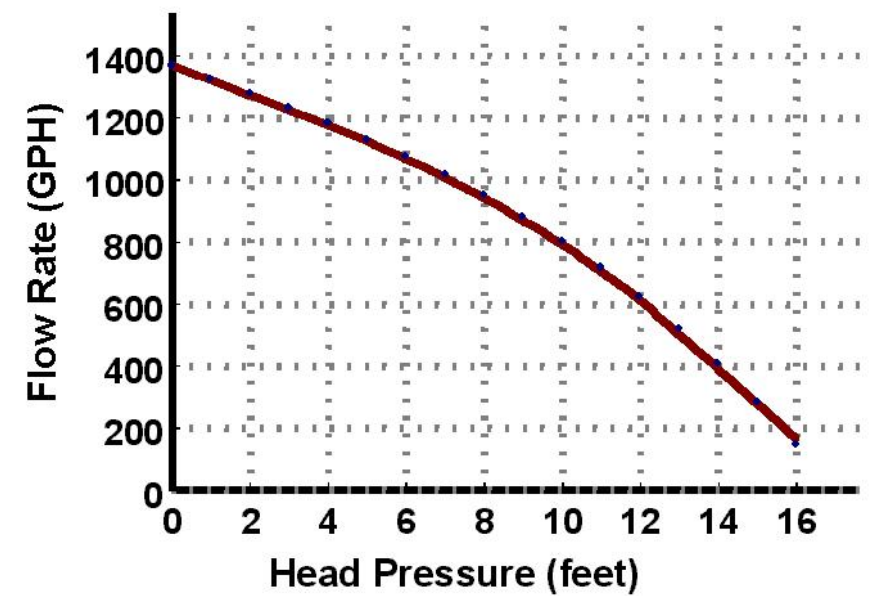
- Pump Selection Guide -
<http://reefs.org/library/pumps/>
- Head Loss Calculator -
<http://www.reefcentral.com/calc/hlc2.php>
- Drain/Overflow Calculator -
<http://www.reefcentral.com/calc/drain.php>

Comparing Volume and Pressure Rated Pumps

Little Giant 4 MDQ-SC



Little Giant 4 MDQX-SC



Comparing Volume and Pressure Rated Pumps



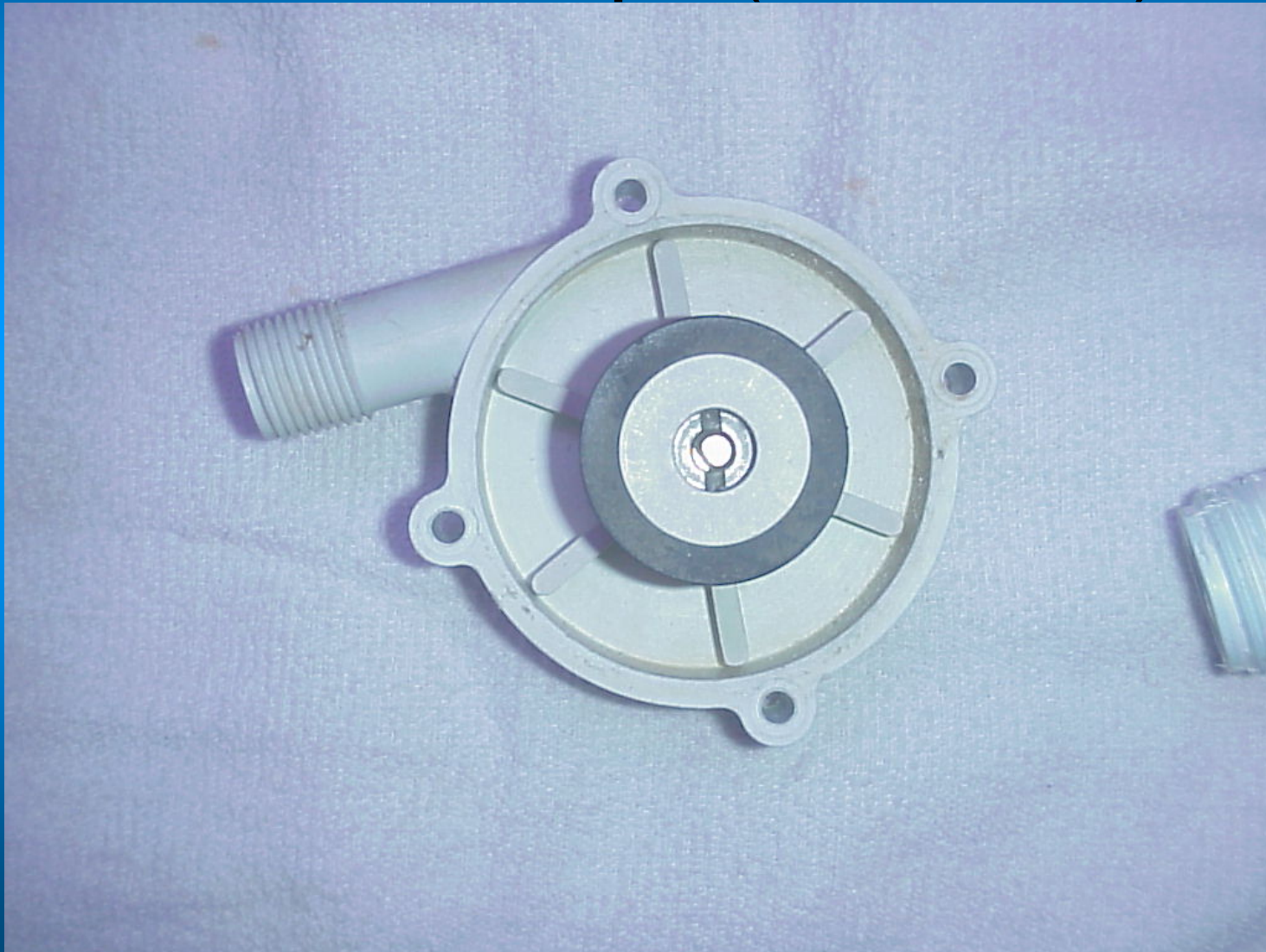
Comparing Volume and Pressure Rated Pumps



Comparing Volume and Pressure Rated Pumps



Comparing Volume and Pressure Rated Pumps (Pressure)



Comparing Volume and Pressure Rated Pumps (Volume)



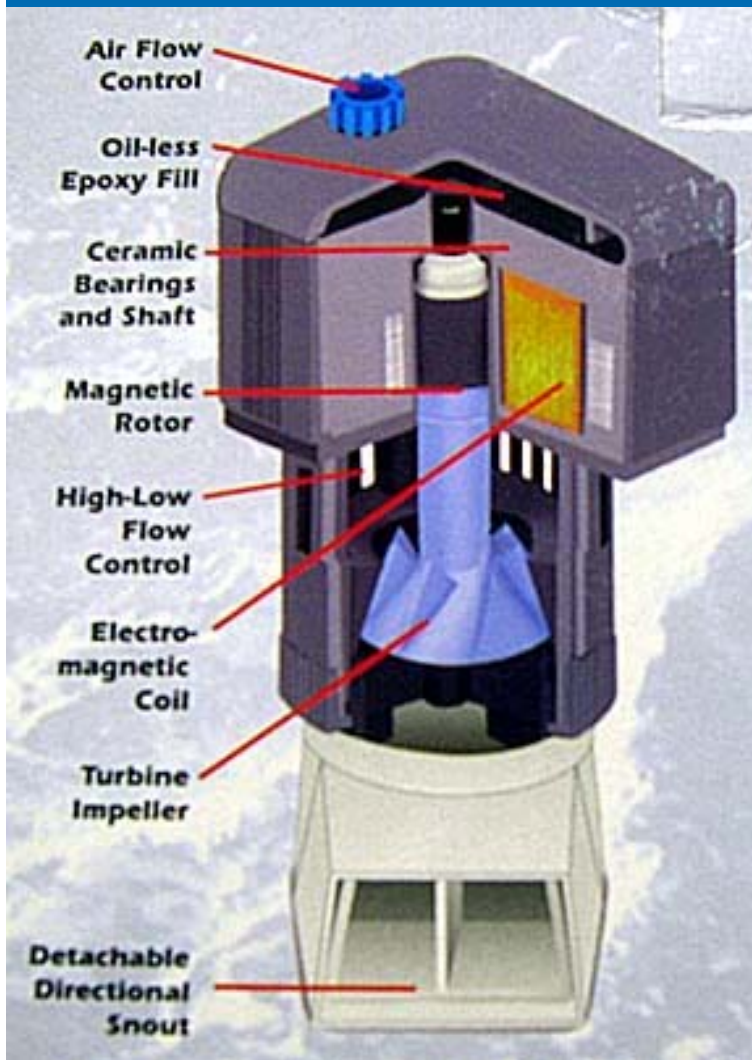
SCWD - Squid - Wavemaker



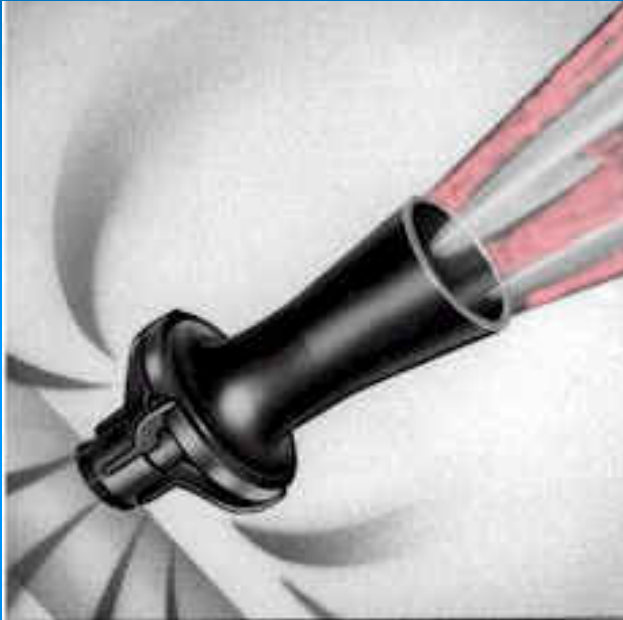
- The SCWD will run on any pump with a minimum output of 50 GPH and a maximum output of 1400. The switching speed and current duration is dependent on the volume of water flowing through the SCWD.

High Flow Powerheads

- Rio Seio M620
 - 620 GPH
 - 8 watts
- Rio Seio M820
 - 820 GPH
 - 18 watts



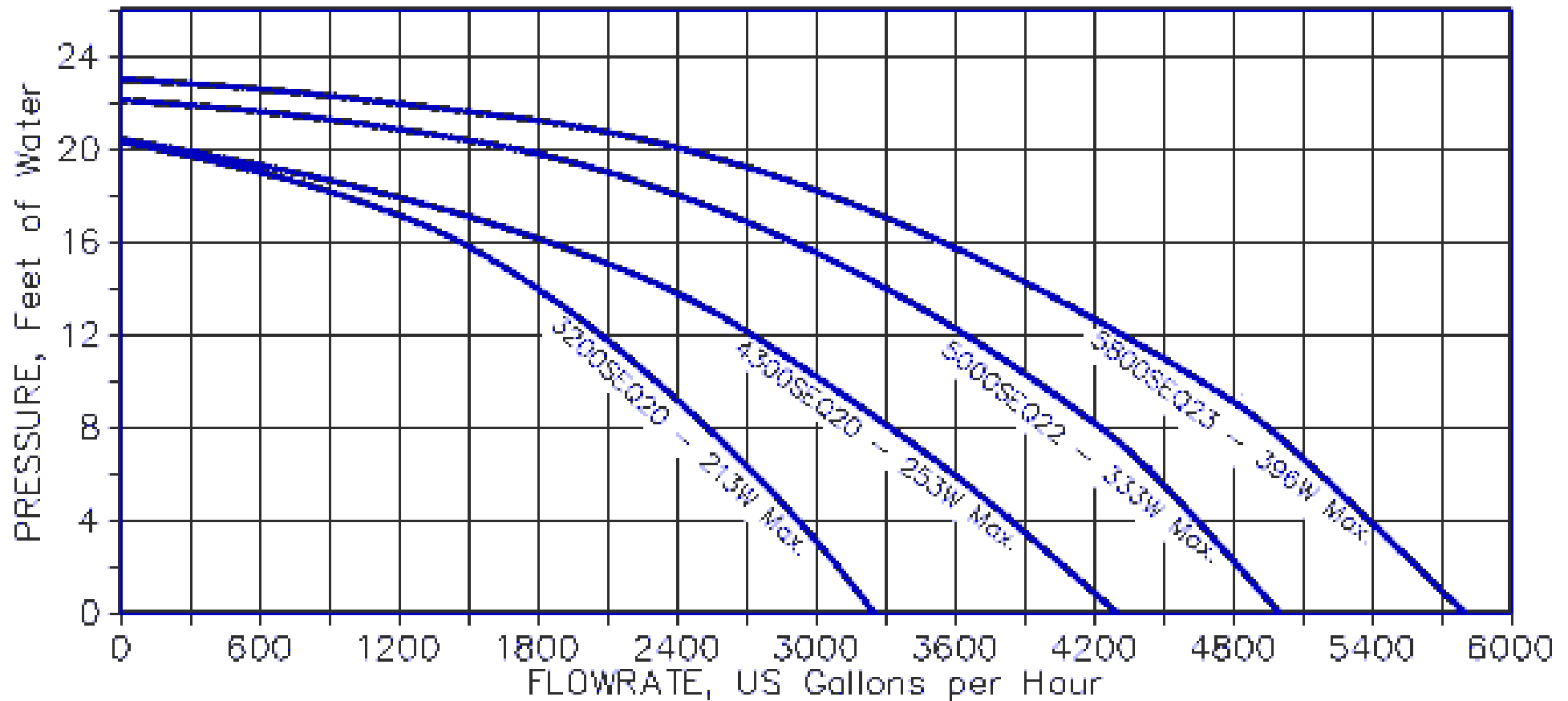
Eductor



- Requires pressure rated pumps
- Ideal flow rate is 420 GPH per inductor at 10 PSI (23 feet of head)
- Flow rate (23 feet) divided by 420 equals the minimum number of inductors

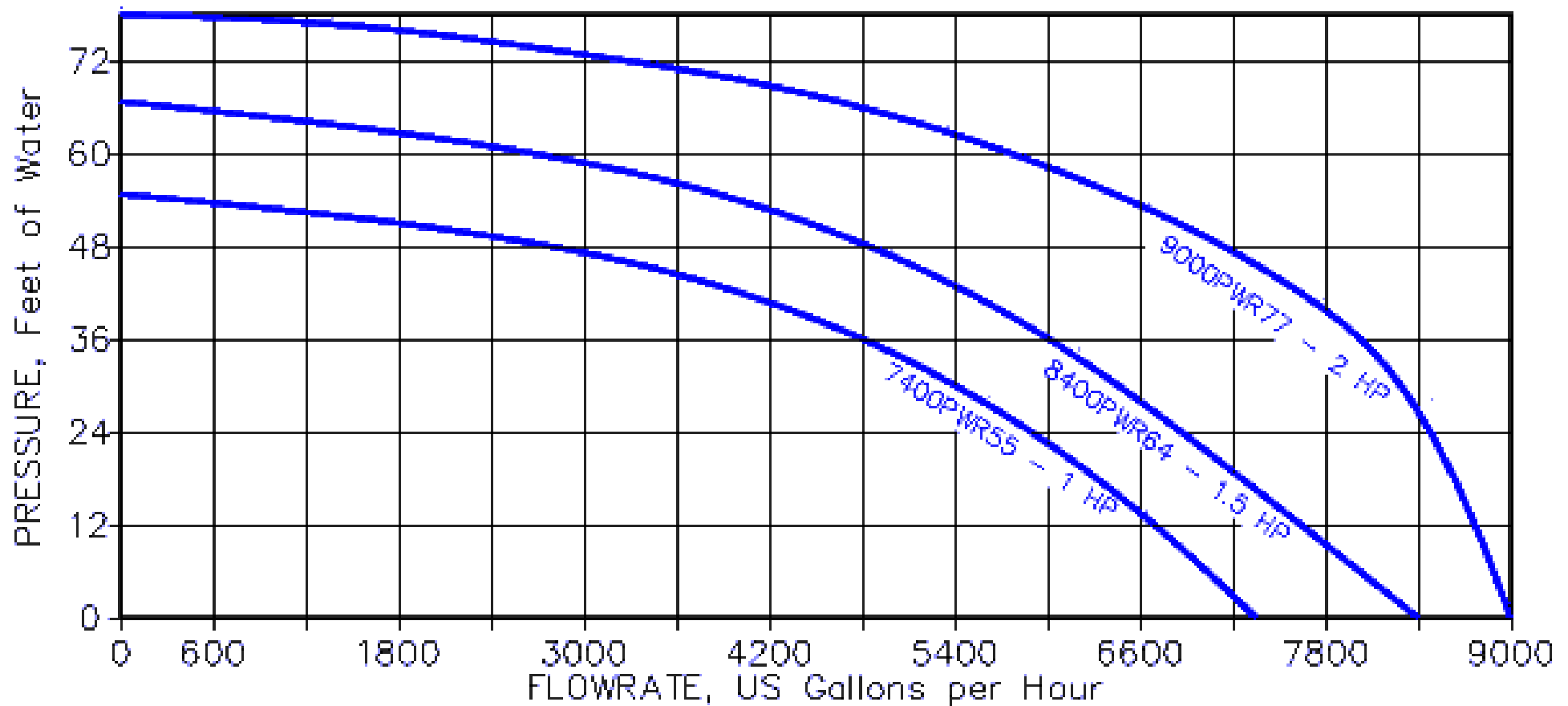
Eductors (Pumps #1)

SEQUENCE 1000 PERFORMANCE DATA



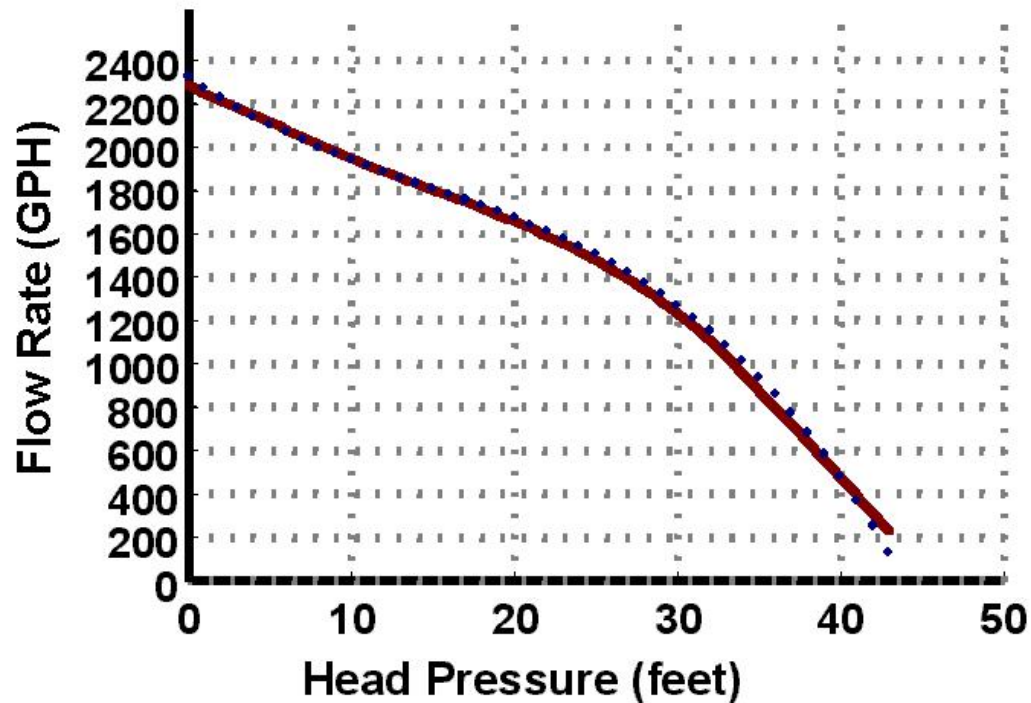
Eductors (Pumps #2)

SEQUENCE POWER PERFORMANCE DATA



Eductors (Pumps #3)

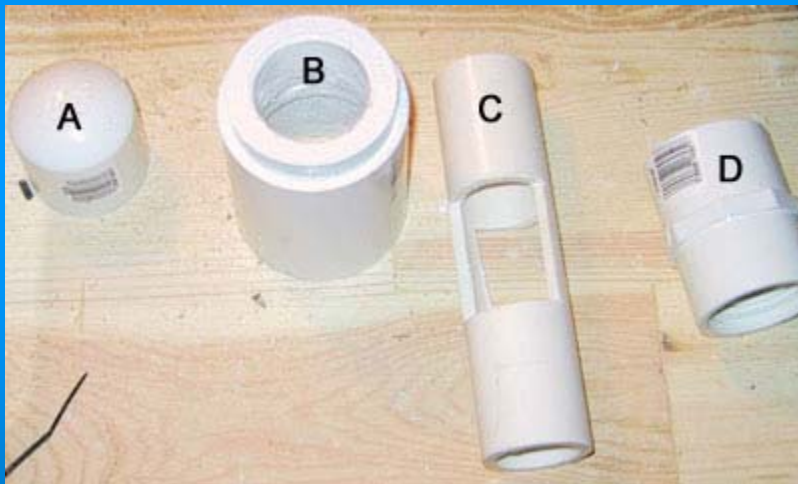
Little Giant TE-5.5 MDQ-SC



- ~1600 GPH @ 23 feet
- $1600/420 = 3.8$
- 4 Eductors = 8400 GPH



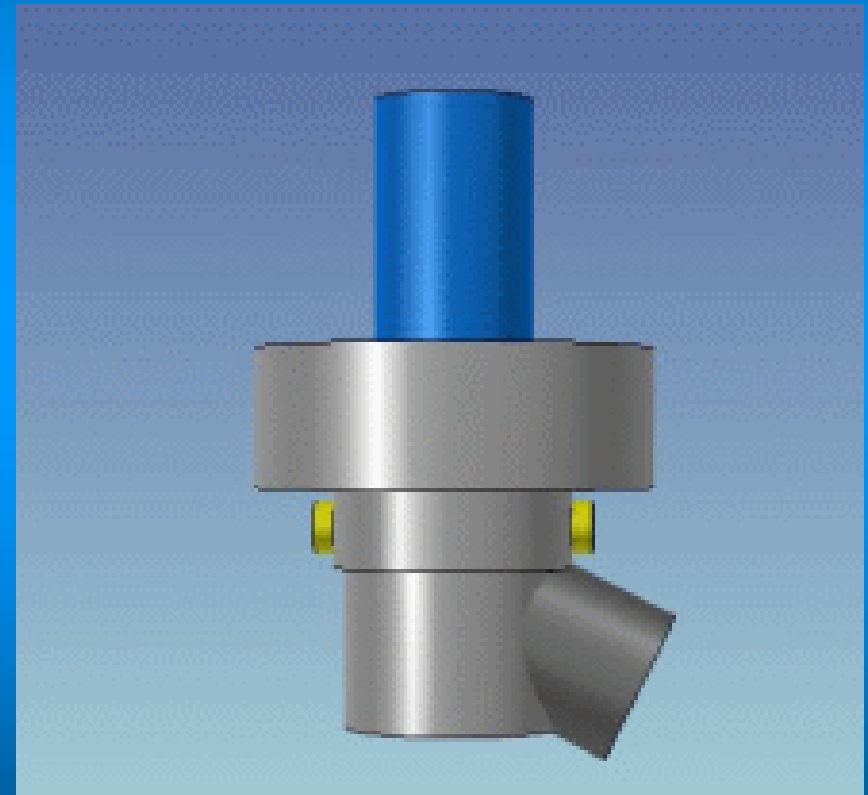
Stockman Standpipe



Durso Standpipe



Oceans Motion's Revolution



Oceans Motion's Revolution



Oceans Motion's OM Squirt



Oceans Motions 4/8 Way



Oceans Motions 4/8 Way

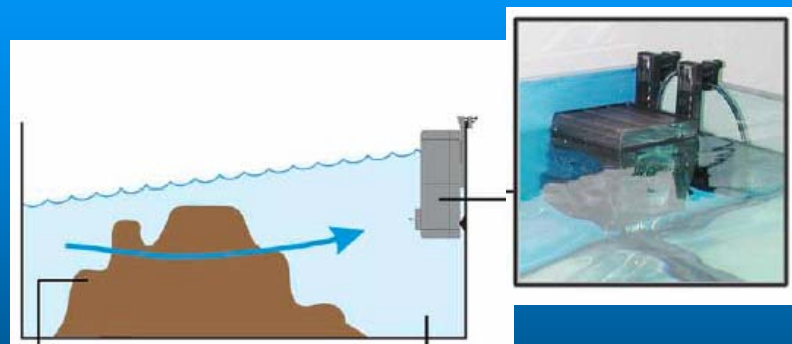
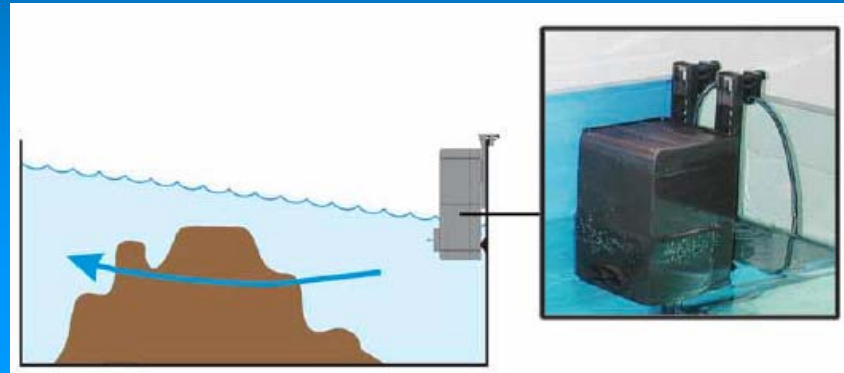


TUNZE® Wavebox 2

- Oscillating current with near nature wave movement and circulation
- De-sedimentation of the entire aquarium habitat; nature water movement fish and corals is product
- Wave generation at low power consumption
- Supplements existing circulation pumps
- Little space required>

Dimensions: L 4.9 in x W 4.4 in x H 11.8 in
For tanks from 52 to 317 US Gal

TUNZE® Wavebox 2



TUNZE® Wavebox 2



Oceans Motions Tsunami

