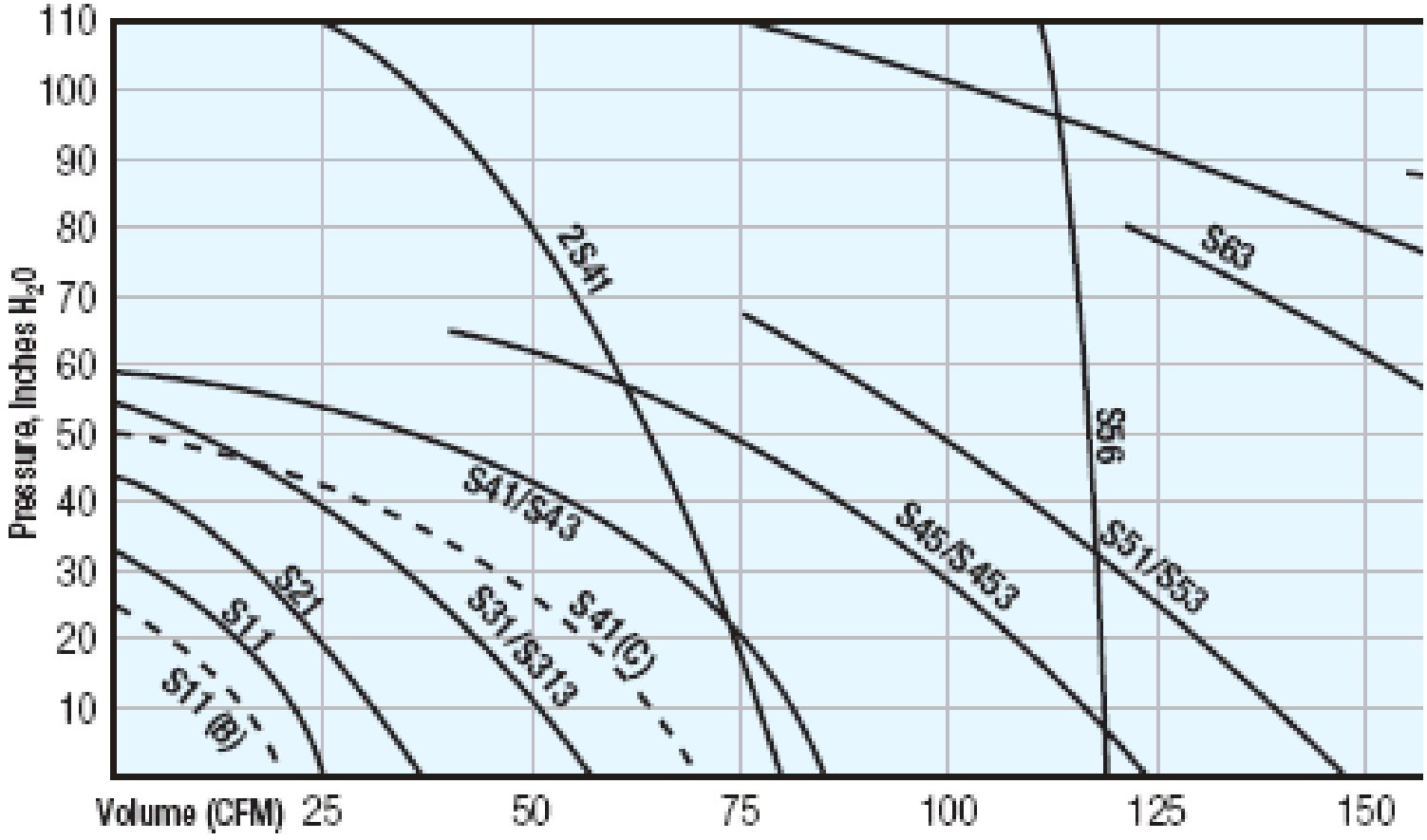
Blower performance curve, this is similar to a pump curve



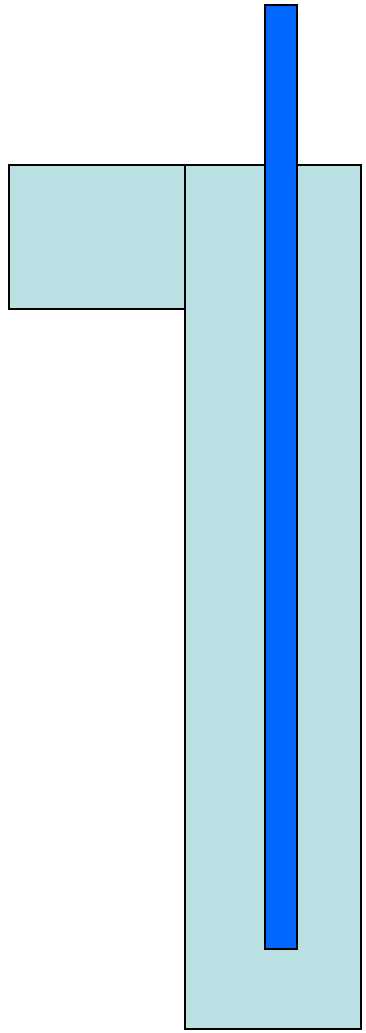
Note: Curve S11 (B) shows performance at 50 Hz and S41 (C) shows performance

Specs

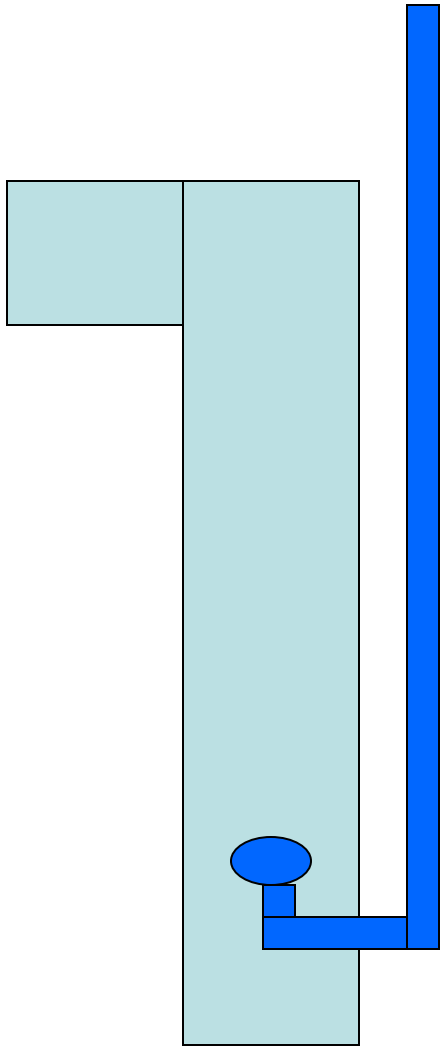
		Model	rpm	2 psi cfm/bhp	4 psi cfm/bhp	6 psi cfm/bhp	10 psi cfm/bhp	12 psi cfm/bhp	Ship Wt
			1,160	7/.3	2/.4	—	—	—	
RB22	Blower Only	22	3,560	46/.8	41/1.3	38/1.8	32/2.8	—	32 lbs
			5,275	73/1.2	68/1.9	64/2.7	59/4.2	—	
RB22A	Blower Package	22	—	*Priced*	*2-hp ODP motor. Call for larger sizes.*				195 lbs
			1,160	34/.6	27/1.1	21/1.6	—	—	
RB32	Blower Only	32	2,800	108/1.6	101/2.7	95/3.8	86/6.0	—	69 lbs
			3,600	144/2.0	137/3.4	131/4.8	122/7.7	—	
RB32A	Blower Package	32	—	*Priced*	*5-hp ODP motor. Call for larger sizes.*				265 lbs
			1,160	85/1.2	72/2.3	61/3.3	—	—	
RB36	Blower Only	36	2,800	253/3.3	239/5.8	229/8.3	—	—	102 lbs
			3,600	334/4.5	321/7.7	331/10.9	—	—	
RB36A	Blower Package	36	—	*Priced with 10-hp single phase motor. Call for larger sizes.*					329 lbs
			700	126/1.8	107/3.3	93/4.8	70/7.8	—	
RB65	Blower Only	65	1,760	387/5.3	368/9.1	353/12.8	330/20.4	320/24.2	245 lbs
			2,350	532/7.7	513/12.8	499/17.8	475/27.4	466/32.9	
RB65A	Blower Package	65	—	*Priced with 25-hp three phase motor. Call for larger sizes.*					805 lbs

Note: Pressure ratings based on inlet air at standard pressure of 14.7 psi (sea level) and temperature of 68°F (20°C).

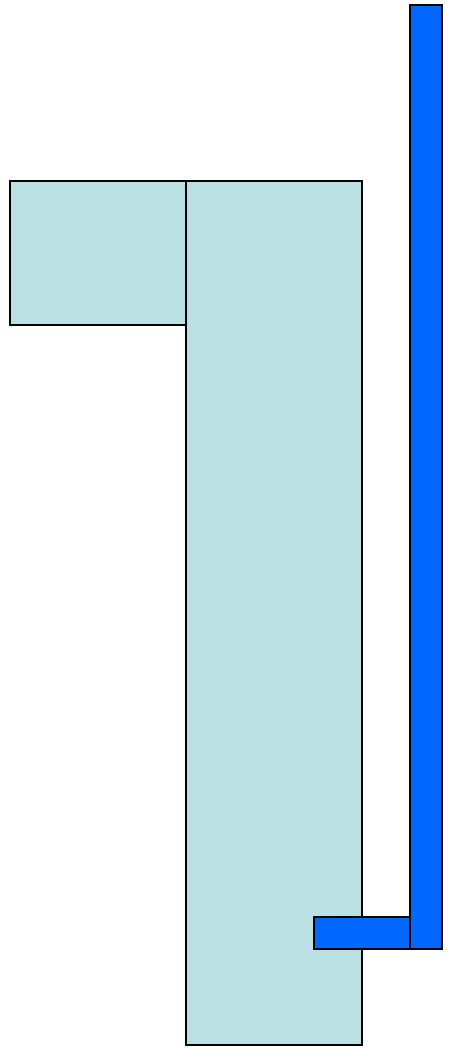
- Airlifts are constructed in many ways.
- Figure #1 shows an airlift with the air supply tube going down the center of the airlift. This is the least efficient technique. The air supply tube displaces a portion of the volume of the lift pipe and the air is being driven in a downward motion instead of an upward and lifting motion.
- If there is a series of airlifts, downward air injection makes it difficult to regulate air flow to each. If some airlines are at shallower levels, this will result in a release of a greater volume of air to the shallower units and they will then appear to pump more vigorously.
- Air will always go to the point of least resistance. It is possible that no air will be ejected from the air supply lines that are deeper in the water column and the airlift will therefore not function.



- Figure #2 shows an airlift wherein the air supply is carried to the center of the airlift and discharged upwards.
- The fitting on the end of the air supply line can be a diffuser, a cone-shaped device with perforations, a tube with drilled holes, or another design. This design would generally be more applicable to large diameter airlifts where the effect of restricting the in-take is minimized.



- Figure #3 shows an airlift where the air supply line is simply attached to the airlift pipe penetrating a short distance within the pipe. Although more efficient than Figure #1 and possibly Figure #2, it is not as efficient as Figure #4. .



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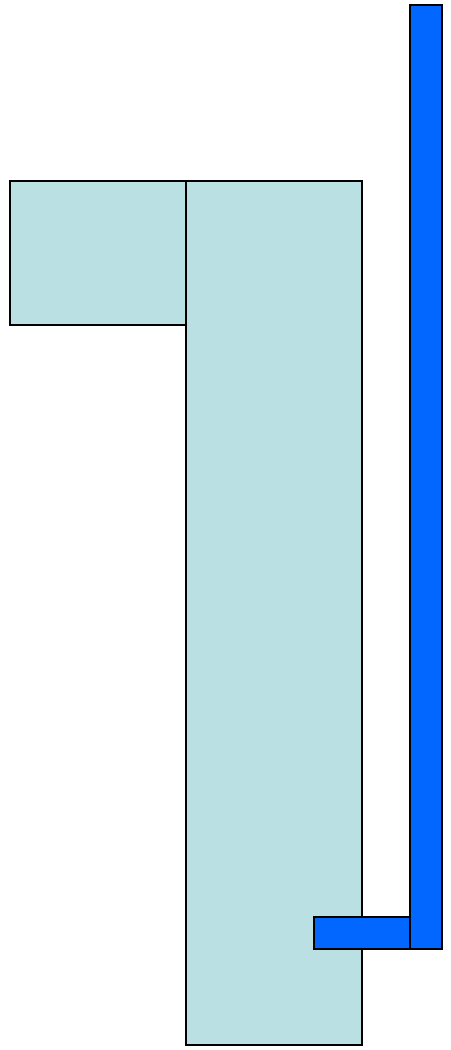
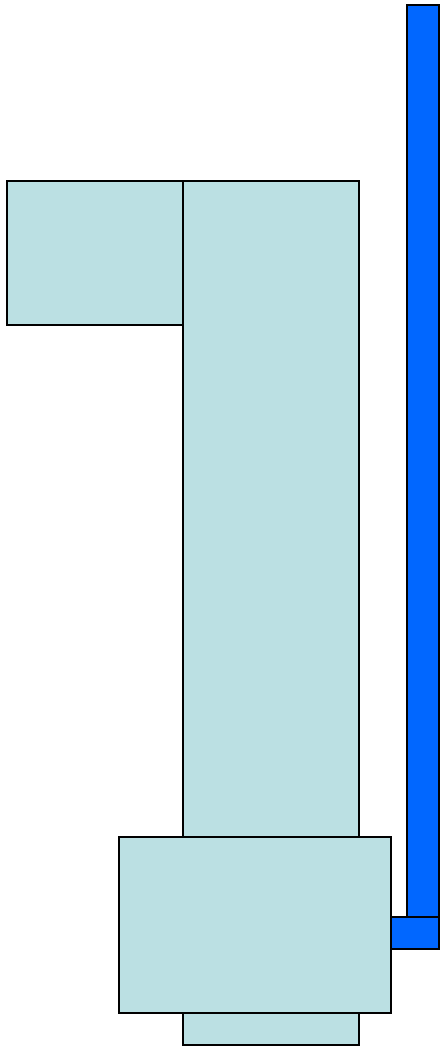
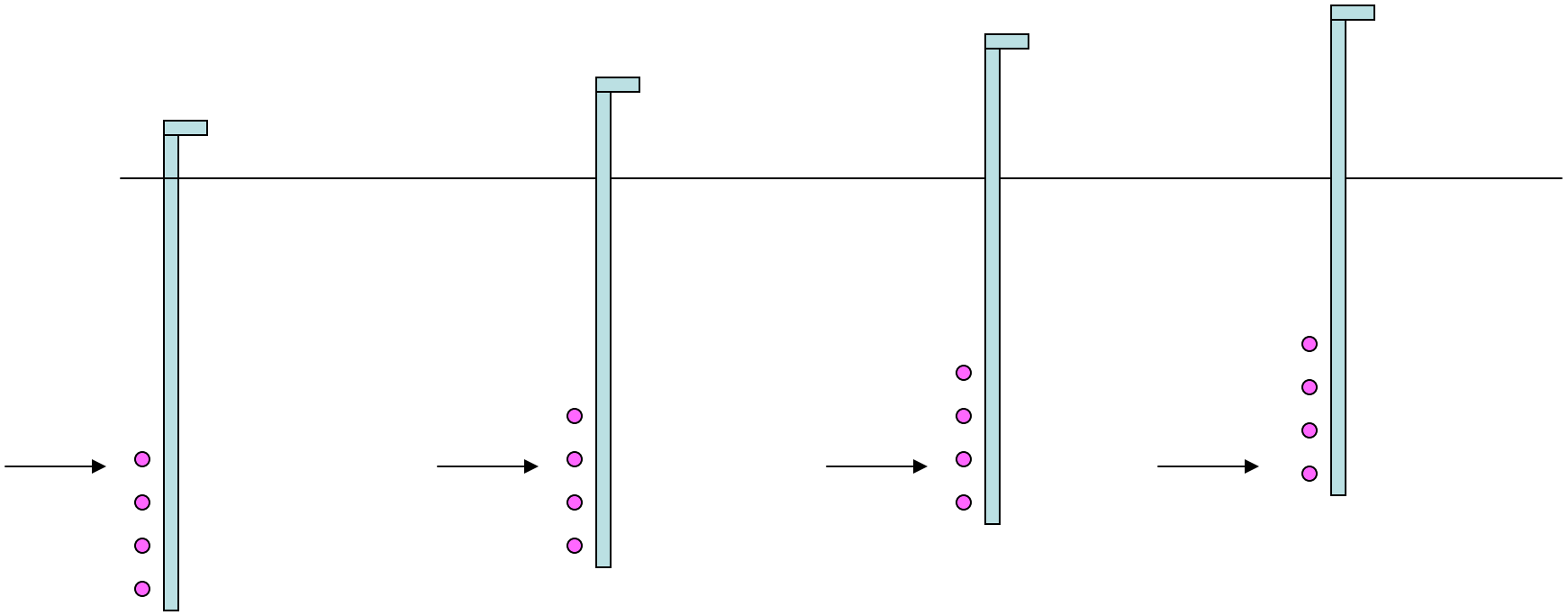


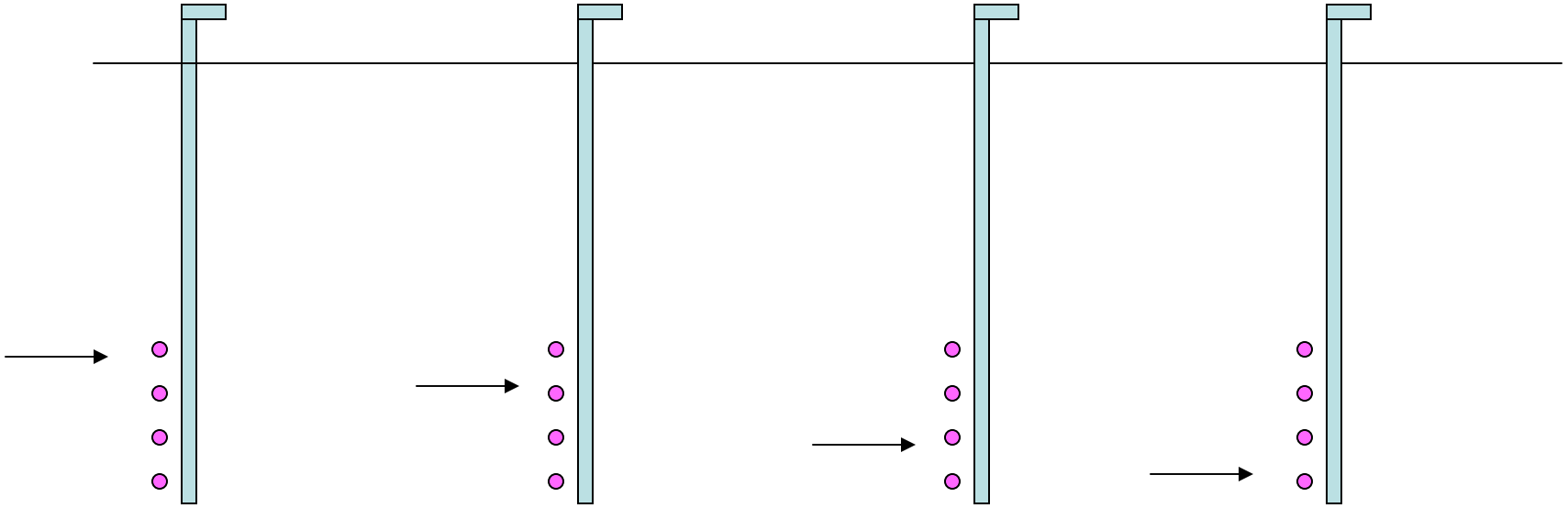
- Figure 4: An lift pipe of a specific size (length and diameter) is selected which is dependant on the volumes of water to be pumped. For a 4" PVC lift pipe, an outer collar of 6" PVC pipe would be used. An appropriate number of holes (of a specific diameter) are drilled round the circumference of the 4" pipe equidistant from the top of the airlift. A uniform depth must be maintained on all airlifts operating from a single blower, unless the air flow to each is valved. AREA has available bushings that will secure various size collars over the perforated portion of various sizes pipe.



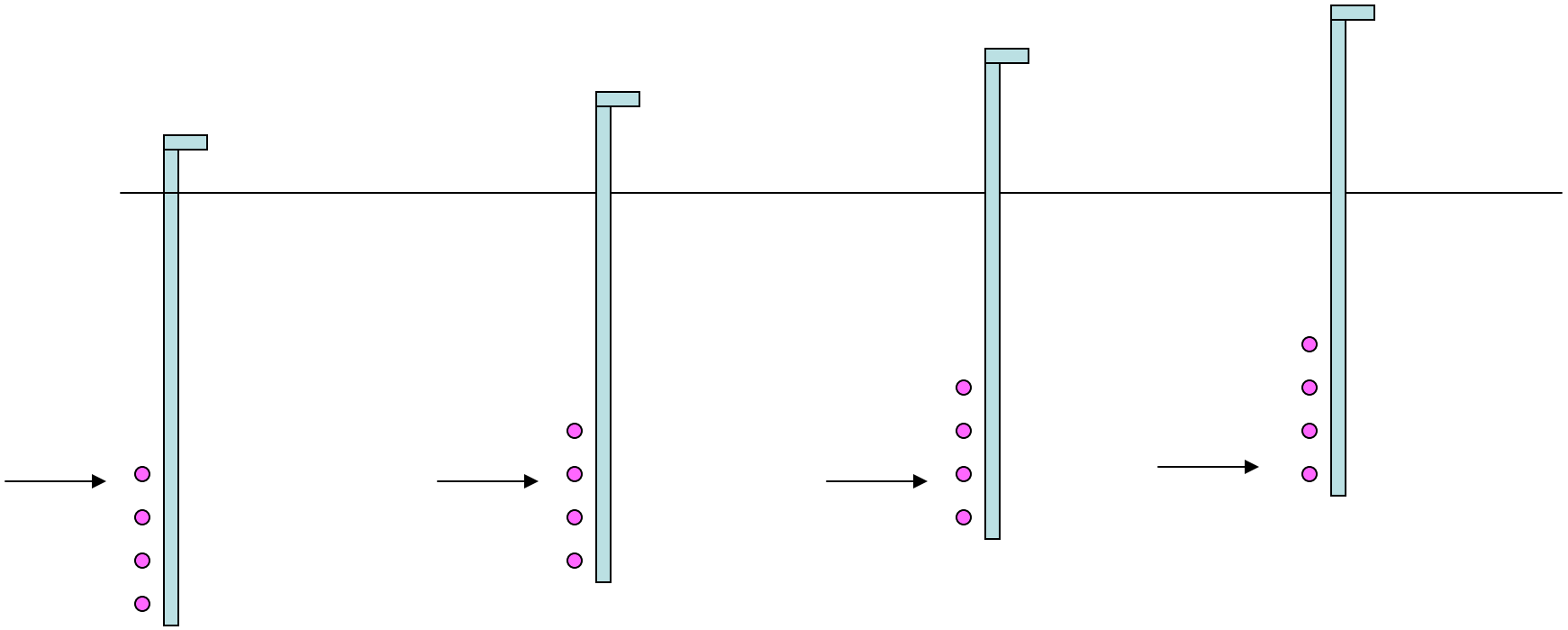
1: airlift record output for the same lift but different heads



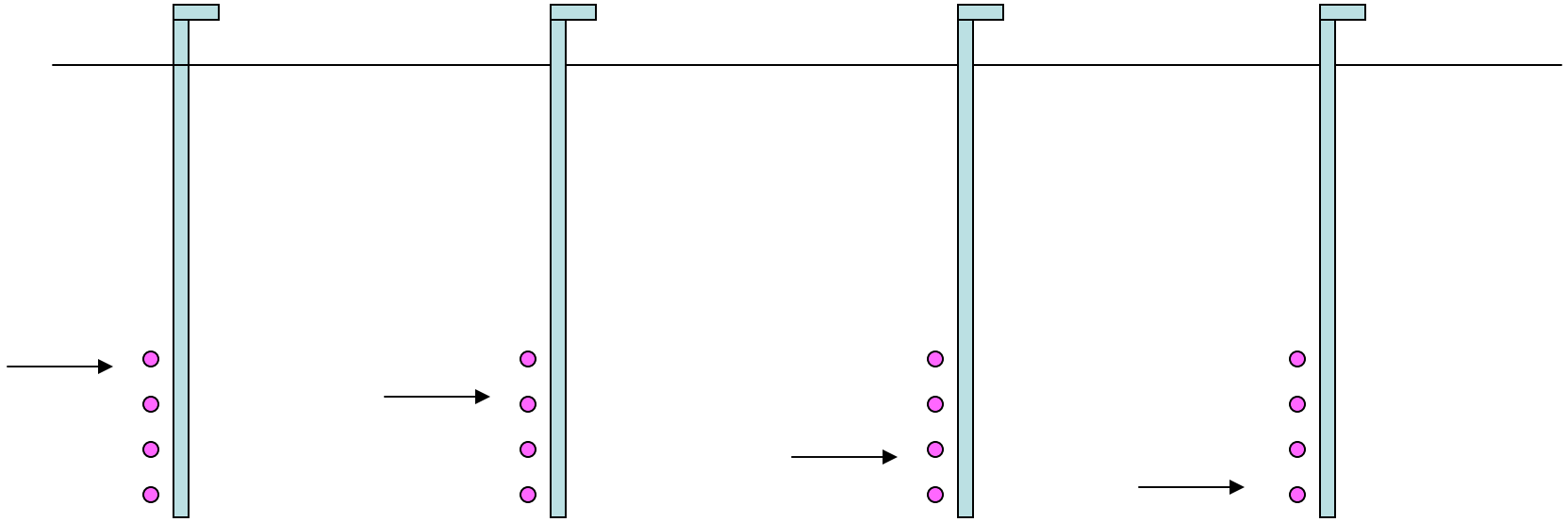
1: airlift record output for different lift distances but the same head.



2: airlift record output for the same lift but different heads use both a small(1/4) and large (1/2) airline.



2 in airlift record output for the different lifts but same head use both a small(1/4) and large (1/2) airline.



- Record lift rate (n=3) for 1 to 4 in. airlift using 1/4 and ½ in. airlines.
- Report all values (l/minute) based on a mean of three replicates that are reasonably close values.
- Plot pumping rates for each size airlift.

Output (l/min) for a 4 in. airlift with air injected at 5 different depths at the same lift height.