	COMPRESSOR + BUBBLE TUBING			COMPR. + BUB IN OCTOAIR FRAME		KASCO IMPELLER DEICER		
Canadianpond.ca Products Ltd.	Industrial Thawline Bubbler Deicer	BUBBLR-50 (1/2HP)	BUBBLR-100 (3/4HP)	OctoAir10 Deicer (3/4HP)	OctoAir60 Deicer	Kasco Marine D2400	Kasco Marine D3400	Kasco Marine D4400
Description of Deicing System	Custom Bubbler: various lenghts of tubing, and many component options	Plug n play bubbler 1/2HP compr, base w fan, 50`BUB12, 50`TORI12	Plug n play bubbler 3/4HP compr, base w fan, 100`BUB12, 50`TORI12	Custom with OctoAir10 stainless steel diffuser, 5 - 17 cfm	Custom with OctoAir60 stainless steel diffuser, 30 - 75 cfm	Impeller unit suspended in water 1/2 HP	Impeller unit suspended in water 3/4 HP	Impeller unit suspended in water 1 HP
Purchase Cost (CAD 2017)								
< $2000	x	x	x -non weighted BUB12			x	x	x
< $3000	x		x	x				
Custom (prices vary)	x			x	x			
Avg. Operations Cost (CAD)/ Week	depends on compressor	$ 7.33	$ 12.58	$ 12.58	depends on compressor	$ 10.94	$ 14.66	$ 24.50
Temperature/Control Timer	x	optional	optional	optional	optional	optional	optional	optional
see below, Notes #1								
Power Consumtion Watts / Hour	depends on compressor	402 (3.5a)	690 (6.0a)	690 (6.0a)	depends on compressor	600 (5.0a)	804 (6.7a)	1344 (11.2a)
see below, Notes #1								
Warranty (years)								
Diffuser	5	5	5	5	5	n/a	n/a	n/a
Motor	variable	2	2	2	2	2	2	2
Manufactured in								
Canada	x	x	x	x	x			
US						x	x	x
Installation Depth Minimum	3 feet (0.9m)	3 feet (0.9m)	3 feet (0.9m)	10 feet (3m)	15 feet (4.6m)	3 feet (0.9m)	3 feet (0.9m)	3 feet (0.9m)
Installation Cycle								
Permanent	x	x	x	x	x			
Requires re-installation						x	x	x

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Water Type								
Fresh Water	x	x	x	x	x	x	x	x
Salt or Brackish Water	x	x	x	x	x	x	x	x
Solution Against Possible Ice Damage								
Ice Sheet Expansion (ice pressure)	x	x	x	x	x	x	x	x
Water Level Fluctuation (ice jacking)	x	x	x	x	x	x	x	x
Ice Flow	x			x	x			
Ice Jams in Rivers and Canals	x				x			
Tidal Ice Build Up	x							
Physics of Operations								
Brings Warm Water to Surface	x	x	x	x	x	x- depends on angle	x- depends on angle	x- depends on angle
Moves Surface Water	x (laminar flow)	x	x	x	x	x (pushes water)	x (pushes water)	x (pushes water)
Technological Details								
Moving Parts in the Water						x	x	x
Electricity in the Water						x	x	x
Compressed air on shore	x	x	x	x	x			
Water Surface unit						x	x	x
Lake bottom unit	x	x	x	x	x			
Approximate Extent of Ice Opening								
Linear, Discreet, Long	x	x	x					
Large, Wide	x (optional)			x	x	x	x	x
Adjustable	x	x	x	x	x			
Applications								
Boathouse, Barge	x	x	x	x		x	x	x
Ferry Terminal	x			x	x			
Ferry Crossing	x							
Marina / Dock Protection	x	x	x	x	x	x	x	x
Fracking	x			x	x	x	x	x
River for Ice Break Up	x			x	x			
Canal	x			x				

Notes #1

Compressors for Bubble Tubing: 120V,
60 Hz, 3.5-6.0 amps @ 10 psi.
Kasco Deicers: 120V
kW rate, Cdn avg: 0.1085 cents/kWh (2017)
Cost is per week $ CAD
24 hours per day, 30 days per month

Calculation:

V x Amp x 24 hr/1000 = kW/day x7 day = Total kW per week x kW rate = Cost per week