

YJ-Nozzle

Micro-Bubble Nozzle



YJ nozzles are developed and manufactured by Bi-Clean Inc.

YJ Nozzle product specifications

Model (weight)	Connector diameter (in.)	Inner diameter (mm)	Pump power usage (kw)	Liquid flow rate (L/min)	Max. Air flow rate (L/min)
YJ-8.0 (1.8kg)	3/4	8	0.4 (1/2 HP)	50 (13 GPM)	15(0.5cfm)
YJ-11 (2kg)	1	11	0.4 (1/2 HP)	80 (22 GPM)	28 (1.0 cfm)
YJ-15 (4.3kg)	1-1/2	15	0.75 (1 HP)	180 (48 GPM)	50 (1.8 cfm)
YJ-21(7.5kg)	2	21	2.2 (3 HP)	400 (106 GPM)	100 (3.5 cfm)
YJ-32SQ (12.5kg)	2-1/2	32	3.7 (5 HP)	750 (200 GPM)	190 (6.7 cfm)
YJ-40 (20kg)	3	40	5.5 (7 HP)	1250 (330 GPM)	300 (10.6 cfm)
YJ-52SP (35kg)	Flange	52	7.5(10HP)	2000 (690 GPM)	700 (24.7 cfm)
YJ-75 (70kg)	Flange	75	18 (24HP)	4500 (1190 GPM)	1150 (40 cfm)

- The flow rate shown are at 0.1Mpa pressure. Higher capacity pump will increase the rate.
- The pressure increase will flow 1.4 times at 0.2Mpa and 1.7 times at 0.3Mpa
- ISO(BSP) threads. NPT threads available upon request.
- YJ-75 is a custom product. Other custom sizes can be available

YJ-Nozzle

The most effective Micro-Bubble Aeration device

- YJ nozzles are made of precisely machined stainless steel for long lasting and uniform performance.



- The SOTE of YJ-nozzles are the best of all Micro-Bubble devices available in the market at 51.5%. And great oxygen transfer power efficiency of 0.37kg-O₂/kwh(see page 4 data)
- YJ-nozzles show excellent performance in dissolving various gasses with high gas utilization.
- YJ nozzles are virtually clogging-free thanks to large aperture size.



SOTE DATA

by Tsurumi manufacturing Co. Ltd.

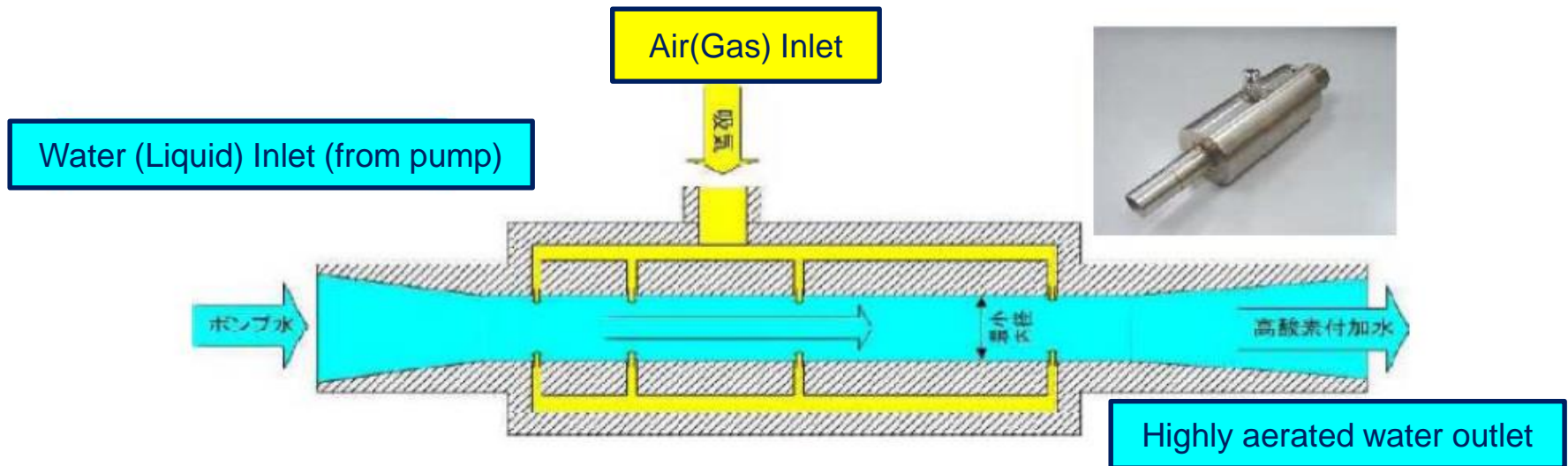
	DO meter 1	DO meter 2	DO meter 3	DO meter 4	Average
Dissolved oxygen volume (kg-O ₂ /h)	0.83	0.90	0.76	0.76	0.81
Oxygen transfer efficiency (%)	52.6	57.0	48.2	48.2	51.5
Oxygen transfer power efficiency (kg-O ₂ /kwh)	0.38	0.41	0.35	0.35	0.37
Air aspiration volume (m ³ /h)	5.4	5.4	5.4	5.4	5.4

Tank size : 10m x 10m x 5.17m water depth

Water temp : 6.5 degree C

System : YJ-21 with Tsurumi pump 50SF22.2 200v, 60hz, 2.2kw

How YJ-Nozzles work?

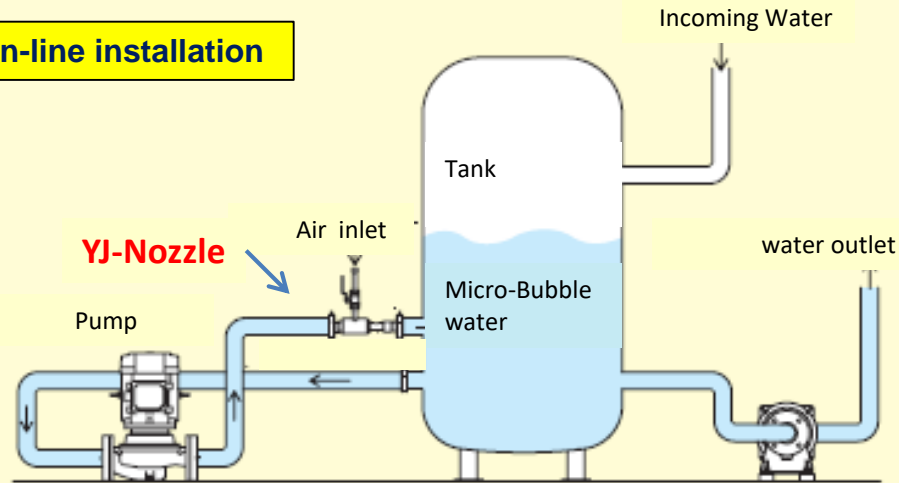


The water go through the nozzle with certain minimum velocity meet air from multiple outlets located inside of nozzle and they are efficiently mixed. The most of air dissolution happens in this process.

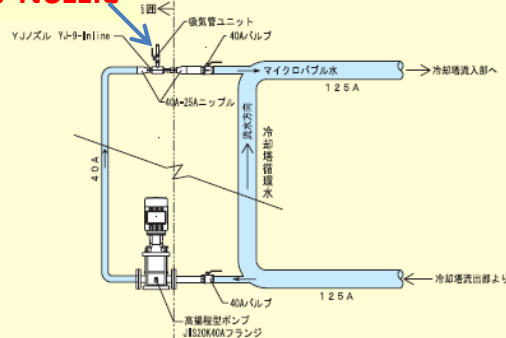
The vacuum created at air inlet is more than -0.09Mpa. It self aspirate air even at the water depth of 10m.

YJ-Nozzle installation examples

In-line installation

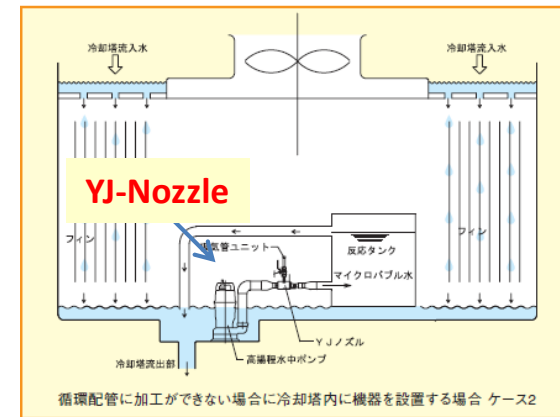


YJ-Nozzle



循環配管にバイパスラインを設けて設置する場合 ケース1
(※循環水にゴミがある場合は、ポンプの流入側にストレーナーの設置を推奨します)

In-line bypassed installation



循環配管に加工ができない場合に冷却塔内に機器を設置する場合 ケース2

Submersible installation

Installation Pictures

