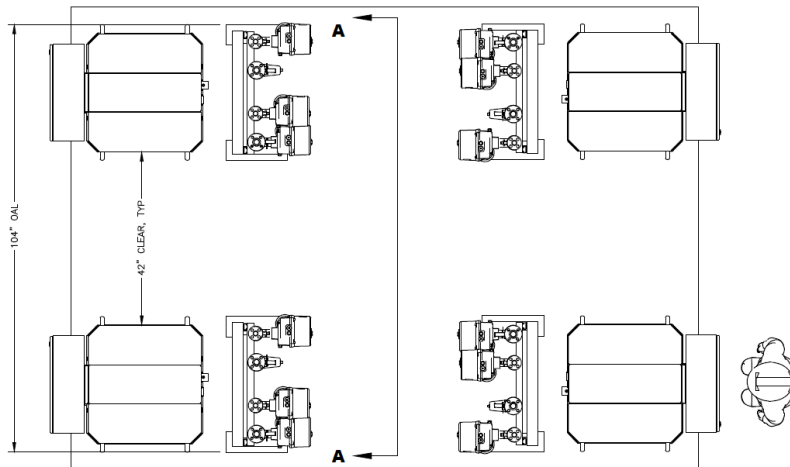


Worcester Water Filtration Plant

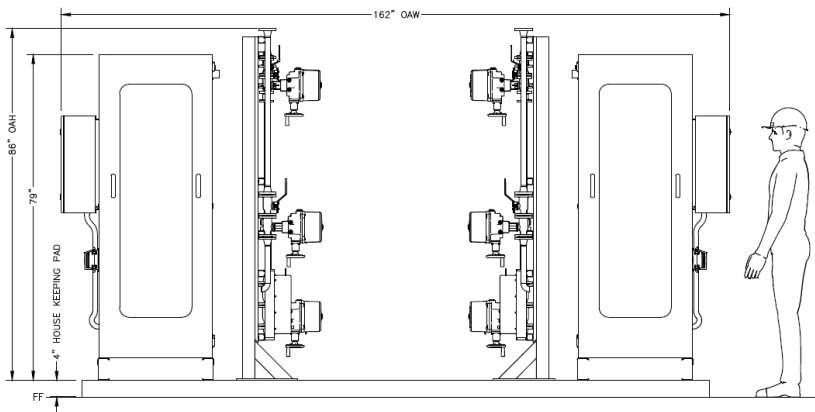
- 8 x Primozone[®] GM48 (23.04 kg/h - 1216 ppd)
- Phase 1 - Commissioning 2019; Phase 2 – Commissioning 2020
- Plant capacity: 7900 m³/h = 50 MGD
- Location: Massachusetts, USA
- Pre-ozonation
- Purpose of ozone: THMs reduction, filtration and coagulation/flocculation improvement
- Dissolution system = bubble diffusers
- Water source: Surface water from a reservoir

Replacement of existing Wedeco/PCI air-fed ozone system. Upgrade low-concentration highly energy consuming ozone system to LOX-fed high-performance high-concentration system.





PLAN VIEW



SIDE VIEW

Water Treatment Plant was awarded a prize for energy conservation.

Read more here → [Worcester's water filtration plant receives award from state DEP for outstanding energy conservation - masslive.com](http://www.masslive.com)

Noteworthy facts:

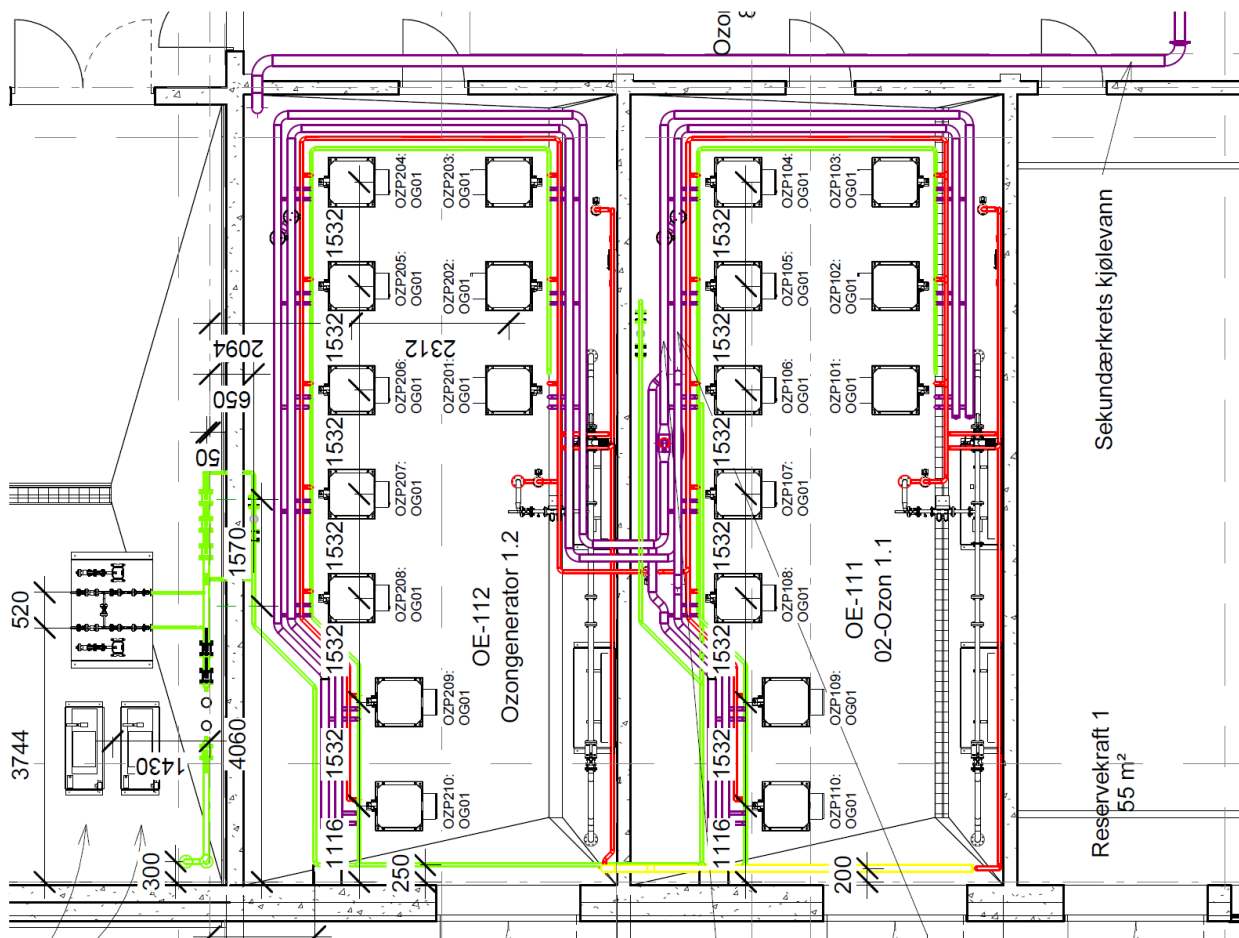
- Air-fed system replacement
- Award for energy saving, thanks to the lower gas flow resulting in much less consumption for off-gas blowers, air compressors, etc
- Filters lifetime & backwash time extended
- Chlorine residual lasts longer in distribution network, thus requiring less Chlorine to be added
- Coagulation/flocculation step now works more efficiently, thus requiring less chemicals to be added

Other Primozone equipment included: 1 x Primozone LOX Booster with duty/stand-by compressors, 8 x Primozone BFP350

Langevatn WTP, Stavanger, Norway

- 20 x Primozone[®] GM48 (54.4 kg/h - 2880 ppd)
- Commissioning 2020
- Plant capacity: 10000 m³/h = 63 MGD
- Ozone is the first step of the treatment process
- Dissolution system = static mixing system with pre-dispersion loops + channel mixer
- Ground water





Primozone has supplied the ozone system for the expansion of Langevatn drinking water treatment plant in Stavanger, Norway. The plant needed to be expanded due to population increase in the area. The expansion plan included the introduction of an ozone system.

Langevatn is Primozone's largest installation worldwide, a very prestigious project and thus a recognition of Primozone as one of the main ozone technology providers in the world.

The design water flow for the ozone treatment plant is 10.080 m³ /h, with a maximum ozone dosage of 4ppm. The minimum required ozone concentration is 14%wt and the water is divided into two lines. Ozone is injected in a side stream, which is then mixed into one of the two raw water streams in the main channel.

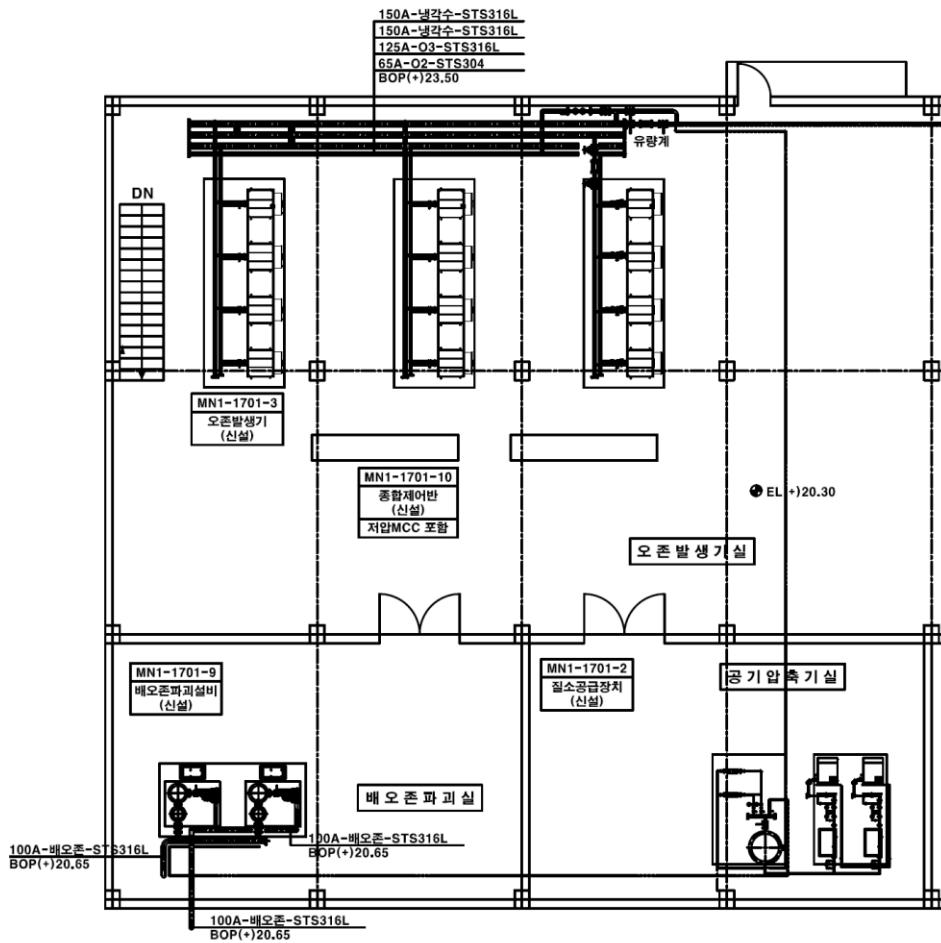
Primozone won this project competing with the largest and most established ozone manufacturers. The evaluation criteria for the public tender focused on cost and especially on total cost-of ownership for the installation.

Langevatn is a large drinking water plant which high ozone requirements are fulfilled by twenty (20) GM48 ozone generators. Even if the amount of ozone required is so high, the space required for the ozone room is much less than it would have been with traditional equipment.

Ulsan-si Hoeya2 drinking water treatment plant

- 12 x Primozone[®] GM48 (35 kg/h – 1800 ppd)
- Commissioning 2019
- Project location: Ulsan, South Korea
- Plant capacity: 11250 m³/h = 71 MGD
- Ozone is used for color, taste, odor removal, oxidation of organic matter, sterilization, disinfection
- Dissolution system = main stream diffusers + static mixing system





Primozone ozone solution is a choice of the Ulsan water treatment plant in South Korea.

The Ulsan Water treatment plant had chosen Primozone ozone solution for their post - ozonation step.

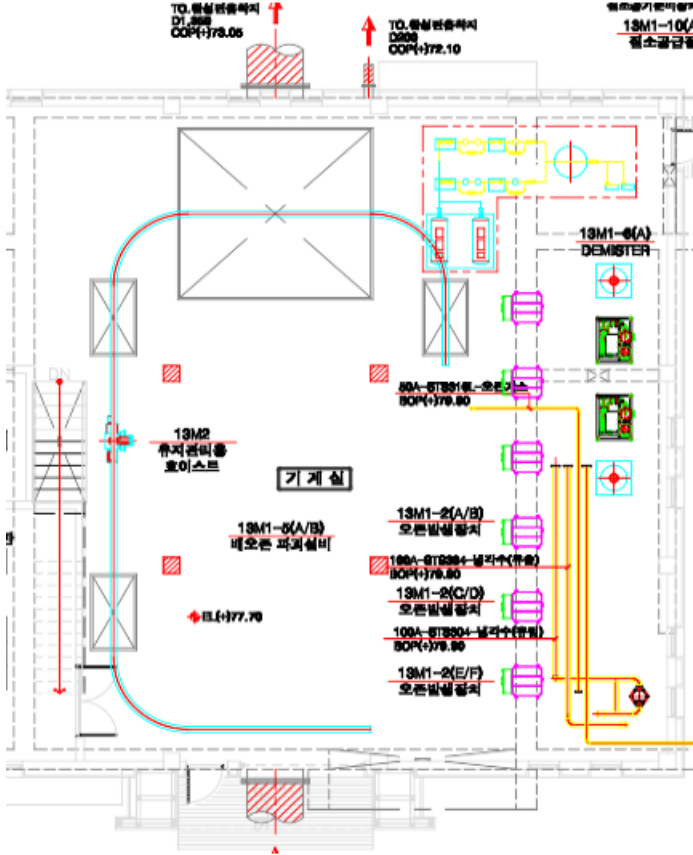
The plant water capacity is 270.000m³/day, and a modern ozone solution is imperative for flawless operation.

The Ulsan Water plant personal selected future approved ozone solution with its built-in redundancy and Primozone unique features to guarantee an optimal process and OPEX optimization

Cheongju drinking water treatment plant

- 6 x Primozone® GM48 (17 kg/h – 900 ppd)
- Commissioning 2017
- Project location: Cheongju, South Korea
- Plant capacity: 5370 m³/h = 36 MGD
- Ozone is used for color, taste, odor removal, oxidation of organic matter, sterilization, disinfection
- Dissolution system = main stream diffusers + static mixing system





This project was to rebuild an existing drinking water plant and extend it with post-ozonation. Cheongju is the capital and largest city of North Chungcheong Province in South Korea, located approximately 150 km south east of Seoul.

Gulpo drinking water treatment plant

- 6 x Primozone® GM48 (17 kg/h – 900 ppd)
- Commissioning 2019
- Project location: Ansan, South Korea
- Plant capacity: 3631 m³/h = 23 MGD
- Ozone is used for color, taste, odor removal, oxidation of organic matter, sterilization, disinfection
- Dissolution system = main stream diffusers + static mixing system

