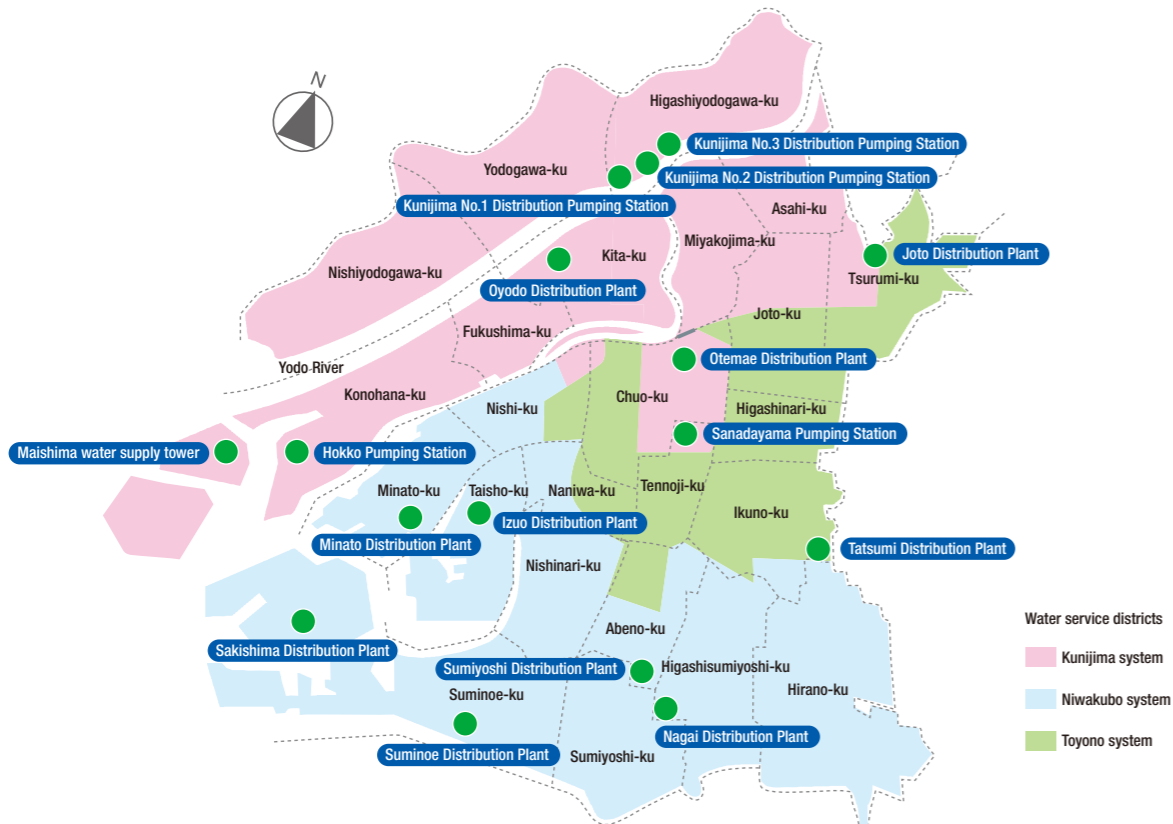


# Outline of Distribution Facilities

## Water Distribution Facilities

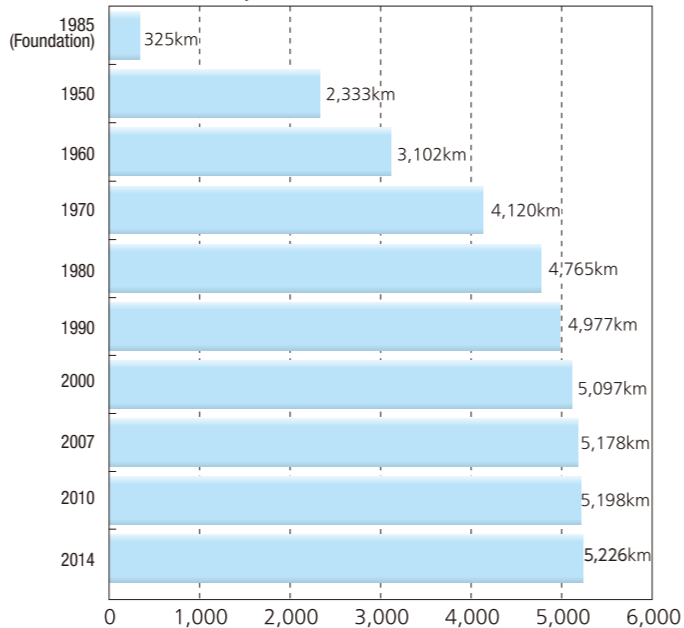
The area of Osaka is almost flat and that is why pressure pumps are used for water distribution. The Kunijima Water Purification Plant downstream system uses the Otemae Water Distribution plant, the Hokko Pressure Pumping Station, and the Maishima Water Distribution Tower as secondary water distribution facilities as well as three Water Distribution Pumping Stations in the Plant to distribute water. The Niwakubo Water Purification Plant downstream system uses the Sumiyoshi Water Distribution Plant, the Sakishima Water Distribution Plant, the Nagai Water Distribution Plant, and Izuo Water Distribution Plant as secondary water distribution facilities as well as the Tatsumi Water Distribution Plant and the Oyodo Water Distribution Plant to distribute water. The Toyono Water Purification Plant downstream system uses the Joto Water Distribution Plant and the Sanadayama Pressure Pumping Station to distribute water. The total capacity of the water purification and distribution facilities is 789,700 m<sup>3</sup>, and the total length of the aqueducts, water supply pipes, and water distribution pipes is approximately 5,200 km.



Capacity of Water Purification and Distribution Facilities of Each System (as of End of Fiscal 2014)

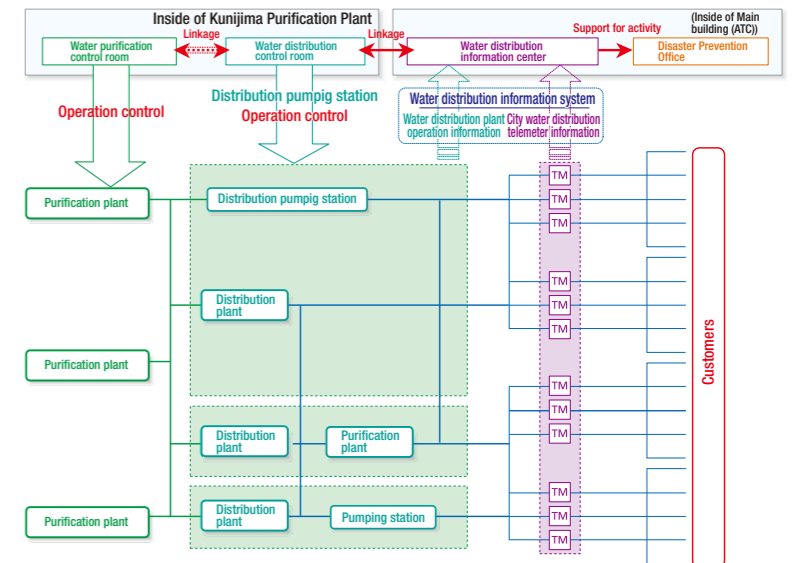
Kunijima Purification Plant System	Niwakubo Purification Plant System	Toyono Purification Plant System
Distribution reservoir for Kunijima Purification Plant No.1 Distribution Pumping Station 112,400m <sup>3</sup>	Distribution reservoir for Niwakubo Purification Plant 33,400m <sup>3</sup>	Distribution reservoir for Toyono Purification Plant 75,300m <sup>3</sup>
Distribution reservoir for Kunijima Purification Plant No.2 Distribution Pumping Station 55,000m <sup>3</sup>	Tatsumi Distribution Plant 100,900m <sup>3</sup>	Joto Distribution Plant 67,000m <sup>3</sup>
Distribution reservoir for Kunijima Purification Plant No.3 Distribution Pumping Station 106,200m <sup>3</sup>	Oyodo Distribution Plant 55,000m <sup>3</sup>	
Otemae Distribution Plant 33,700m <sup>3</sup>	Sumiyoshi Distribution Plant 12,000m <sup>3</sup>	
Otemae Distribution Plant 500m <sup>3</sup>	Suminoe Distribution Plant 27,300m <sup>3</sup>	
	Sakishima Distribution Plant 30,000m <sup>3</sup>	
	Nagai Distribution Plant 42,000m <sup>3</sup>	
	Minato Distribution Plant 15,000m <sup>3</sup>	
	Izuo Distribution Plant 24,000m <sup>3</sup>	
<b>Total 307,800m<sup>3</sup></b>	<b>Total 339,600m<sup>3</sup></b>	<b>Total 142,300m<sup>3</sup></b>

Transition of Extension of Aqueducts, Water Supply Pipes, and Water Distribution Pipes



## Water distribution control

Osaka City has been promoting the centralized management of the water distribution plants and pumping stations through the Water Distribution Control Room located in the comprehensive administrative building in the Kunijima Water Purification Plant in order to achieve efficiency improvements in water distribution in normal times and prompt water distribution in emergency cases. Through the water distribution information system, the Waterworks Bureau collects information from water distribution telemeters placed on water distribution pipes in Osaka City while the Water Distribution Information Center to monitor the situation of water distribution in all the areas of Osaka City. The Waterworks Bureau has been operating them linking together for the water operation management of the entire city.



Water Distribution Control Room



Water Distribution Information Center



Water Supply Information System



The functions of the water distribution management of the first and second water distribution management facilities of the Kunijima Water Purification Plant as well as the Oyodo Water Distribution Facilities and the Joto Water Purification Plant for industrial water were integrated into the Water Distribution Control Room in April 2008. A functional expansion was newly made, and the Water Distribution Control Room was added with the functions of water distribution control of five Water Distribution Plants, which were under the Niwakubo Water Purification Plant downstream system, in April 2011. The Izuo Water Distribution Plant came into operation in January 2014, and since then, the Water Distribution Control Room has been in centrally remote control of the operation of the water distribution pumping facilities of 17 places for water supply and industrial water services 24 hours a day. These pumping facilities are: Four Water Distribution Pumping Stations (the First, Second, and Third Water Distribution Pumping Stations and the Higashi Yodogawa Water Distribution Pumping Station for industrial water) in the Kunijima Water Purification Plant and Water Purification Plants, Water Distribution Plants, and Pumping Stations in 13 places in Osaka City (the Oyodo Pressure Pumping Station, the Otemae Water Distribution Plant, the Sanadayama Pressure Pumping Station, the Hokko Water Distribution Plant, the Joto Water Distribution Plant, the Tatsumi Water Distribution Plant, the Sumiyoshi Water Distribution Plant, the Sakishima Water Distribution Plant, the Nagai Water Distribution Plant, the Izuo Water Distribution Plant, the Joto Water Distribution Plant for industrial water, and the Sakuranomiya Water Distribution Plant).

The Water Distribution Information Center uses water distribution telemeters (with flowmeters and pressure gauges) installed on water distribution pipes in the entire areas of Osaka City to monitor the situation of water distribution in all the areas of Osaka City. The Waterworks Bureau utilizes the findings to review the suspension of water and passing water in normal times and make planning on emergency water distribution in disaster, accident, and other emergency cases. It is possible to view data that is collected and processed by the Water Distribution Information Center through terminals, including those of the Water Distribution Information Systems and the Disaster Information Systems, installed at each Purification Plant, Waterworks Maintenance Center, Waterworks Bureau Office, and Municipal Office concerned. Furthermore, the Waterworks Bureau takes disaster countermeasures with uninterruptible power supplies and duplicated communications lines for 30 main water distribution telemeters, including index stations for the operation of water supply pumps.

\* Number of water distribution telemeters installed (as of the end of 2014)

Water pressure and flow measurement stations	57
Flow measurement stations	8
Water pressure monitoring stations	37

(Reference)

Number of water distribution telemeters installed for industrial water (as of the end of 2014)

Water flow monitoring stations	1
Water pressure monitoring stations	6

The Water Distribution Plants and Pressure Pumping Stations are in automatic operation control of pumps to stabilize the water pressure of index stations of water distribution telemeters located in Osaka City as much as possible.