TAIYO NIPPON SANSO
The Gas Professionals

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Water

18O

Taiyo Nippon Sanso's Solution as a Leading Oxygen Manufacturer

Ultra-Pure Oxygen Distillation - A Revolutionary New Process

Target Material for ^{18}F PET Imaging

Superior Quality

・Highest Enrichment	≧98atom%
・Chemical Purity	＞99.99%

Stable Supply

- ・Annual Capacity 600kg
- ・3 Independent Plants

Consistency

・cGMP	ICHQ7A
・Long Shelf Life	3years

Water ^{18}O

US.PAT.NO. 6,461,583
Method for enrichment of heavy component of oxygen isotopes

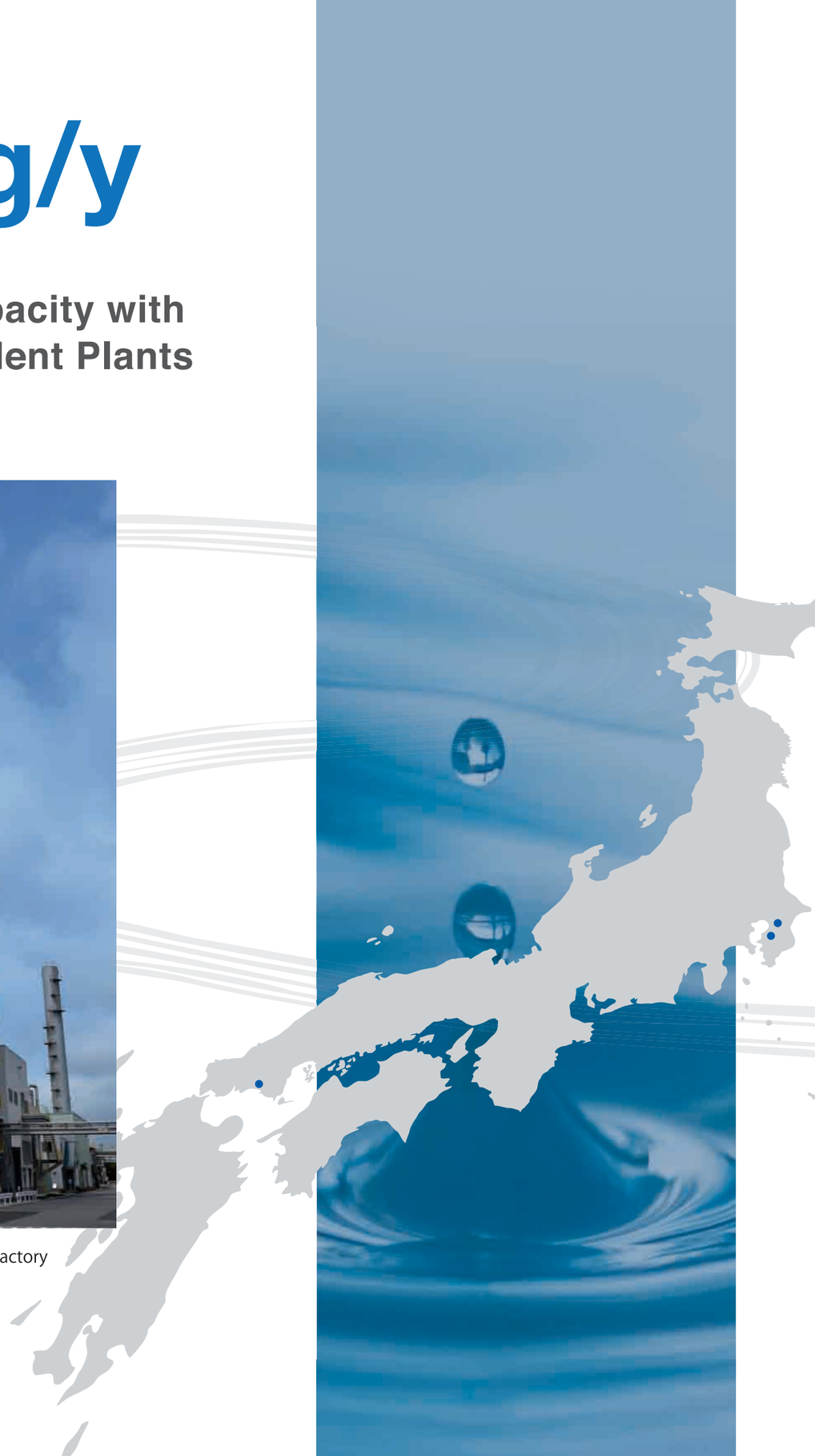
US.PAT.NO. 6,321,565
Method and apparatus for the production of heavy oxygen water

US.PAT.NO. 6,202,440
Process and apparatus for separation of stable isotope compound

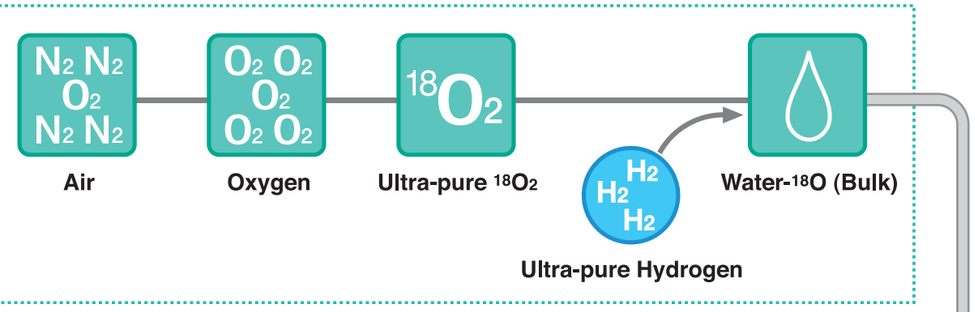
600kg/y

World Largest Production Capacity with Three Independent Plants

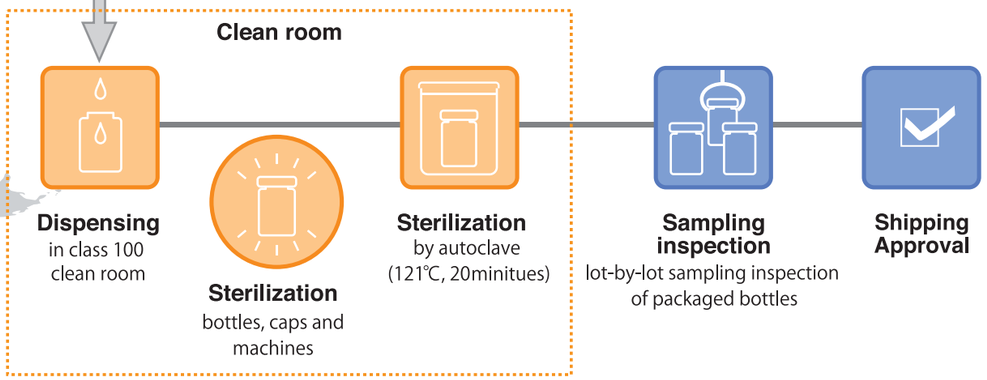
300kg/y No.3 Plant, SHUNAN Factory



Enriching ISO9001



Packaging cGMP (ICHQ7A)



200kg/y No.2 Plant, SODEGAURA Factory

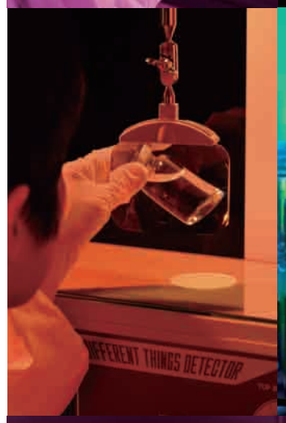
100kg/y No.1 Plant, GOI Factory

Specifications
Water-^{18}O

Formula : $H_2{}^{18}O$
Chemical purity : >99.99%
Molecular weight : 19.98
Package size : 10grams, 20grams and 50grams
Container : glass vial septum top and aluminium crimp seal

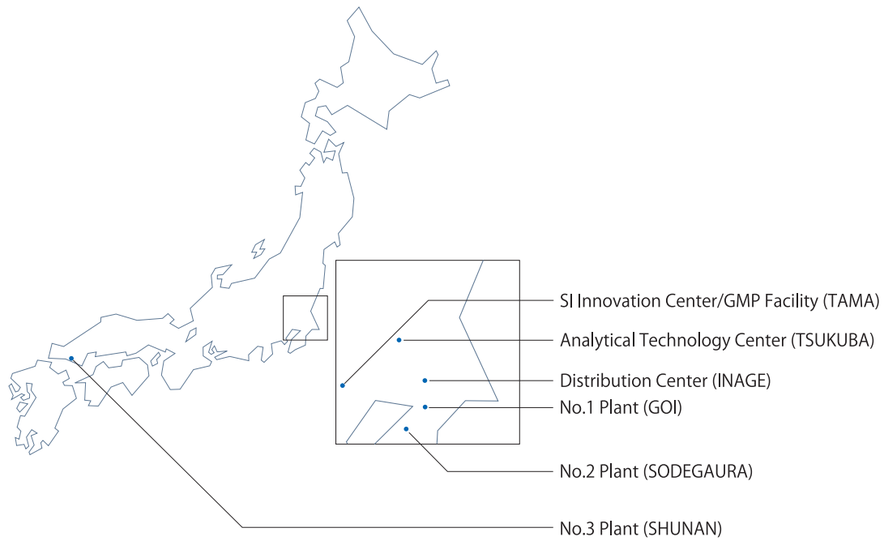
Test	Unit	Specification	Method
Oxygen-^{18}O	atom%	≧98	MS
Oxygen-^{17}O	atom%	<2	MS
Oxygen-^{16}O	atom%	<2	MS
Appearance	—	Clear, Colorless, No visible object	Visual check
Chemical purity	%	>99.99	*
Na	mg/L	<2	ICP-MS
Mg	mg/L	<1	ICP-MS
K	mg/L	<1	ICP-MS
Ca	mg/L	<1	ICP-MS
Fe	mg/L	<0.1	ICP-MS
Cu	mg/L	<1	ICP-MS
Zn	mg/L	<1	ICP-MS
NH_4^+	mg/L	<1	IC
F^-	mg/L	<1	IC
Cl^-	mg/L	<1	IC
Br^-	mg/L	<1	IC
NO_3^-	mg/L	<1	IC
PO_4^{3-}	mg/L	<1	IC
SO_4^{2-}	mg/L	<1	IC
I^-	mg/L	<1	IC
Total Organic Carbon	mg/L	<5	TOC analyzer
Conductivity	mS/m	<0.3	Conductivity meter
pH	—	5.5-8.0	pH meter
Microbial limit	cfu/mL	<1	Membrane filter
Pyrogenicity	EU/mL	<0.25	LAL

*Chemical purity value is calculated by subtracting the sum total of measured impurities from 100%.



Integrated & Global Support for Ever Increasing Demand

SI Innovation Center/GMP Facility

Analytical Technology Center

Distribution Center