
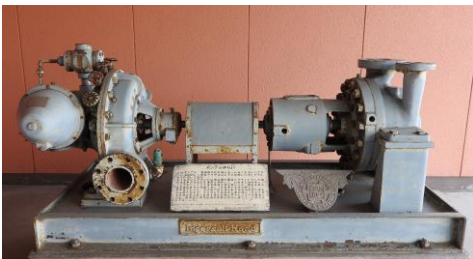



## The world's first low-pressure polyethylene manufacturing equipment

Registration No.	Number 00286		
Registration Date	September 15, 2020	Registration Category	Category 2
Name (Model, etc.)	<b>【The world's first low-pressure high-density polyethylene manufacturing equipment】</b> (1) Low-pressure HDPE polymerization vessel (2) Raw material feed pump of an ethylene plant (3) Powered piston from the No. 2 compressor at an ethylene plant		
Location	Kuga-gun Waki-cho, Yamaguchi Mitsui Chemicals, Inc.		
Owner (Custodian)	Mitsui Chemicals, Inc.		
Manufacturer (Company)	(1) Shinko Pfaudler (2) Ingersoll-Rand (3) Mitsui-Thomassen		
Year Manufactured	(1) 1958 (2) 1958 (3) 1962		
Year first appeared	(1) — (2) — (3) —		
Reason For Selection	<p>These materials are items of manufacturing equipment ((1) polymerization vessel, (2) raw material naphtha feed pump and (3) powered piston for a gas engine) for low-pressure polyethylene from the early years of petrochemical industrial complexes in Japan. This method of manufacturing low-pressure HDPE was discovered by German chemist Karl Ziegler in 1955. The industrial complexes in Japan were among the first in the world to achieve industrial-scale manufacturing using this method. The petrochemical industry started out centered around American oil refining technology and German coal chemistry. Based on these technologies, the industry developed further technologies to synthesize polymers such as organic and inorganic chemicals and synthetic rubber, as well as large-scale synthesis of synthetic oil. In Japan, the growth of the industry kept pace with the West, fueled by naphtha from Middle Eastern crude oil. These materials from Japan's first industrial oil complex were among the first equipment in the world used to commercialize low-pressure HDPE with the Ziegler method. These signify an important step in technology development.</p>		
Registration Standard	1-A (Show an important aspect or stage of the development of science and technology.) 2-B (Made a notable contribution by facilitating an epoch-making advance in Japan's economy and place in the world.)		

Open/Closed to Public	Open to public		
Photo	(1)	(2)	(3)
			
Other useful information			