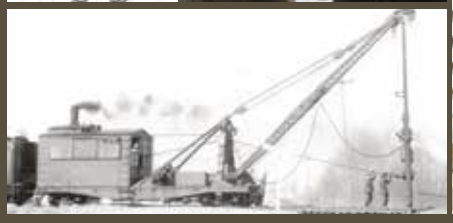


The Museum of Pile Drivers






GIKEN

1991

AT90

Introduced computer-controlled auto-operation for the first time

1988

TP333

First mass-produced Trench Sheet Piler

1987

FT70

Smaller, lighter, with full 360° rotation on Mast

1985

KGK-80C4

Improved construction efficiency - self-propelled corner construction

1983

R33

Pioneering new construction method - overcomes overhead obstacles

1979

DH-150

The Compact Drop Hammer with Low Vibration & Low Noise

1980

RP-100

In pursuit of simplicity - extraction dedicated model

1988

R42(Modified)

Prototype No. 3 - predecessor of the Gyro Piler

2002

ECO100

Comprehensively reduces environmental impacts by using Green & IT Technologies

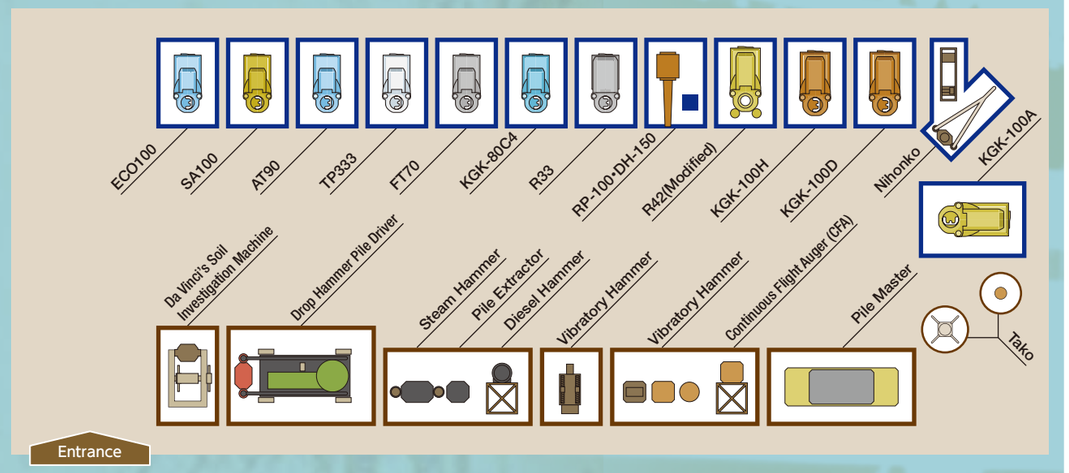
1995

SA100

Achieved super-automation & increased workability at a super-light weight

The Museum of Pile Drivers Floor Map

Evolution of Silent Piler



1975

KGK-100A

Founder's Dreams come true - The 1st Silent Piler

1977

KGK-100D

First model of Silent Piler sold commercially

1978

KGK-100H

High quality mass-produced model, laid the foundation for Press-in Machine manufacturing

Transition of Pile Drivers in the World

around1500

Da Vinci's Soil Investigation Machine

Pile driver model reproduced from Da Vinci's design

around1720

Drop Hammer Pile Driver

Drop hammer pile driver using steam power, among others

1875

Steam Hammer

Impact driving systems with steam driven pistons

1928

Pile Extractor

Reverse acting hammer for pile extraction

1938

Diesel Hammer

Impact driving systems using diesel engines

1934

Vibratory Hammer

Vibration systems which drive piles using high frequency

1947

Continuous Flight Auger (CFA)

Machine that excavates and builds piles through augering

1965

Pile Master

Multi-ram pressing machine with panel driving method

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History of Pile Drivers and Silent Pilers

- Impact Driving Method
- Vibro-driving Method
- Press-in Pilling Method
- Bored Piling Method (Excavation Method)

B.C.

- Impact pile driving by using manual labour
- Mid 15th C. Francesco. di Giorgio Martini came up with the impact pile driver in Italy.
- Early 16th C. Leonardo da Vinci came up with the soil investigation machine in Italy.

1700

Early 18th C. Steam-powered engines are in commercial use.

1775 Horsepowered-pile driver is invented in Britain.

1800

- 1845 The birth of steam pile driver in Britain
- 1858 Installed wooden piles by Nagasaki Steel Works using steam hammers
- 1875 Steam Hammer in the U.S.A is in commercial use

Late 19th C. Invention of steel sheet piles

1900

- 1902 Jryggve Larssen develops Larssen Steel Sheet Piles.
- 1903 The retaining wall work for Mitsui Main Building Project (The beginning of steel sheet pile use)

1923 The Great Kanto Earthquake, Japan

A large amount of steel sheet piles were imported from all over the world for post-disaster restoration works on harbours, rivers etc.

- 1929 Government-controlled Yawata Steel Works starts producing domestic steel sheet piles.
- 1934 Soviet Union conducts vibratory pile driving experiments. (Electric-powered Vibro-Hammer)
- 1938 DELMAG GmbH & Co. KG develops the diesel hammers in West Germany .

1945 End of the World War Ⅱ

Japanese government encourages adoption of construction machinery technologies from overseas and technical alliances with foreign countries for postwar rebuilding.

1950

- 1947 Cal Weld develops the earth drilling machines in the US.

- 1951 Japan National Railways imports diesel hammers.
- 1953 Kato Works Co.,Ltd. develops the pole erecting vehicles (earth auger) in Japan.
- 1954 Salzgitter develops the reverse circulation drilling machines in West Germany.
- 1960 Kobe Steel, Ltd develops the domestically produced diesel hammers in Japan.
- 1960 Toyo Menka-Kaisha, Limited imports vibro-hammers from Soviet Union.
- 1960 Shin Mitsubishi Heavy-Industries, Ltd signs the technical partnership with Benoit (France).
- 1963 Taylor Woodrow develops the Pile Master in the UK.
- 1965 Mitsubishi Heavy Industries, Ltd becomes the sales distributor for Pile Master under technical partnership.

1967 Establishing Kochi Giken Consultant Co., Ltd.

- 1967 Nippon Syaryo, Ltd develops the 3-point-supported piling machines in Japan

Ever-increasing Construction Pollution by Pile Driving Works in Japan

1968 Implementation of Noise Regulation Act in Japan

1970

- 1972 Sanwa Kizai Co.,Ltd. develops the rock the auger machines in Japan.
- 1973 Kobe Steel, Ltd. develops the smokeless diesel hammers in Japan.

1975 Completion of the 1st Silent Piler

1976 Implementation of Vibration Regulation Act in Japan

- 1977 Sanwa Kizai Co.,Ltd. develops the dual-axis auger machines in Japan.
- 1978 DELMAG GmbH & Co. KG develops the hydraulic vibro-hammers in West Germany.

1978 Establishing Giken Seisakusho Co., Ltd.

1980

- 1980 Mitsubishi Heavy Industries, Ltd launches the smoke measure type diesel hammers in Japan.
- 1980 Nippon Syaryo, Ltd develops the earth drilling machines in Japan.
- 1981 BSP International Foundations Ltd develops the large hydraulic hammers in the UK.
- 1982 Construction Machine Research Co., Ltd. develops the super high frequency hydraulic vibro-hammers in Japan.
- 1984 Ishikawajima Construction Machinery Corporation develops the 3-point-supported type piling machines in Japan.
- 1985 Mitsubishi Heavy Industries, Ltd develops the casing rotator for hard rock in Japan.
- 1987 Sanwa Kizai Co.,Ltd. develops the tri-axis auger machines in Japan.

1990

- 1995 Kencho Kobe develops the controllable super high frequency hydraulic vibro-hammers in Japan.
- 1996 Chuou Automotive Kogyo develops the hydraulic auger machines in Japan.
- 1997 Chowa Kogyo Co.,Ltd. develops the controllable super high frequency hydraulic vibro-hammer, Type Zero Vibro-Hammer, in Japan.

2000

History of The Silent Piler

- 1977 First model of Silent Piler sold commercially "KGK-100D"
- 1978 Mass-produced Model, "KGK-100H"
- 1981 Fully Self-moving Model, "KGK-80C"
- 1982 Radio Control Operation Model, "KGK-130N"
- 1983 The 1st Prototype of Clear Piler, "R33"
- 1985 Corner 4 Function Model, "KGK-130C4"
- 1987 Full 360° rotation on Mast "FT70"
- 1988 Trench Piler, "TP333"
- 1988 The 1st Prototype of Tubular Piler, "R90"
- 1991 Automatic Operation System, "AT90" & "AT150"
- 1995 New Automatic Operation System, "SA75" & "SA100"
- 1995 The Silent Piler for Z-sections, "ZP150"
- 1997 Hard Ground Press-in Machine "SC-100"
- 1997 The Silent Piler for Wide-Width Sheet Piles "SW100"
- 2002 Environmentally-friendly Design, "ECO100"
- 2003 Gyro Piler, "GRA1030"
- 2007 The Silent Piler with Multi-press-in Modes, "SCU-ECO400S"
- 2013 Modular Design "F301"
- 2014 F101、F201
- 2015 F111
- 2016 F401-1400
  F301-G1000
  F401-G1200
  F501-G1500

Creating the Future by Learning the Past and Knowing the Present.

The Museum of Pile Drivers is the only museum in the world you can learn the history of pile divers and transitions of construction principles with a variety of precious exhibits collected around the world.

Piling construction such as building foundation of structures, earth retaining walls, and water cut-off walls. is essential for sustaining infrastructures of our lives. In the past, piling construction brought about enormose environmental pollution due to its methods based on "Impact" and "Vibration". However, the world's first pollution-free press-in and extraction machine, "Silent Piler", invented by Giken in 1975 cleared the issue and pioneered a new domain of pile usage.

We are happy if the exhibits inspire you the concept "Creating the Future by Learning the Past and Knowing the Present " also from the view of manufacturing through the history of pile drivers.

Classification of Machineries for Foundation Works Based on Pile Types