

## Ultrasonic Drilling Monitor

# DM-602R / 604R

*Koden promotes intelligent foundation work.*



### SPECIFICATIONS

#### Recorder Unit

Measuring system	Ultrasonic echo sensing system				
Recording system	DM-602R	Direct recording in two directions (X-X' or Y-Y')			
	DM-604R	Direct recording in four directions (X-X' and Y-Y')			
Recording paper	Electrosensitive recording paper 250 mm x 20 m (DMP-250)				
Measuring range	0.5 m	1.0 m	2.0 m	4.0 m	
(radius)	Shift 0%	0 to 0.5 m	0 to 1.0 m	0 to 2.0 m	0 to 4.0 m
	50%	0.25 to 0.75 m	0.5 to 1.5 m	1.0 to 3.0 m	2.0 to 6.0 m
	100%	0.5 to 1.0 m	1.0 to 2.0 m	2.0 to 4.0 m	4.0 to 8.0 m
Paper feed rate	Constant speed	7.5 mm/min, 15 mm/min, 30 mm/min and 60 mm/min			
	Synchronized with the depth	1/4	025 mm/m of sensor up/down movement		
		1/50	20 mm/m of sensor up/down movement		
		1/100	10 mm/m of sensor up/down movement		
	1/200	5 mm/m of sensor up/down movement			
Measuring accuracy	±2% at full scale				
Depth mark	A depth mark is printed every 1 m and depth is automatically printed numerically every 5 m				
PC display and storage	Serial data output provided (RS 232C cable)				
Power supply protection circuit	Equipped with two built-in non-fuse breakers (2 A and 8 A), a leakage breaker (20 A) and an overvoltage protection circuit				
Power supply	100 VAC, 50/60 Hz	110 VAC, 50/60 Hz	220 VAC, 50/60 Hz		
Power consumption	700 VA (At 100 VAC)	700 VA (At 110 VAC)	700 VA (At 220 VAC)		
Operating temperature	-10°C to +50°C (14°F to 122°F)				

#### Winch Unit

Up/down speed	0 to 20 m / min
Up/down movement distance	100 m maximum
Bottom and casing sensing system	Automatic sensing by limit switch
Operating temperature	-10°C to +50°C (14°F to 122°F)

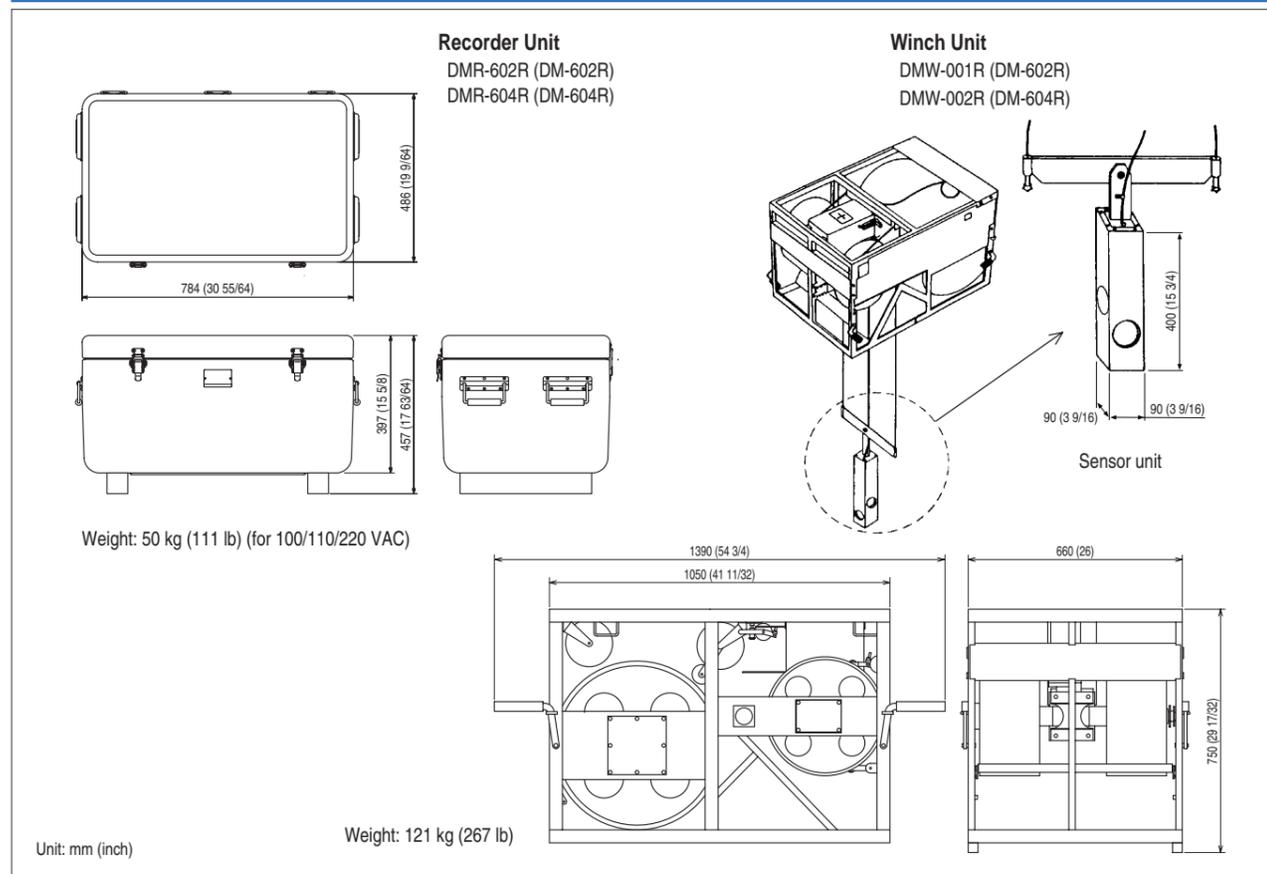
#### Standard Configuration

Recorder unit	DMR-602R (DM-602R)	Contained in box	41 kg
	DMR-604R (DM-604R)	Contained in box	41 kg
Power supply (Built into Recorder unit)	DMT-000R	For 100 VAC, contained in box	9 kg
	DMT-001R	For 110 VAC, contained in box	9 kg
	DMT-002R	For 220 VAC, contained in box	9 kg
Winch unit	DMW-001R (DM-602R)	With a sensor unit and cable	121 kg
	DMW-002R (DM-604R)	With a sensor unit and cable	121 kg
Connecting cable	CW-558R	With 15-pin connectors	10 m
AC power cable	CW-71R	With a 3-pin connector and one end plain	10 m
Spare parts kit		Included in Recorder unit	1 set
Operation manual		Contained in Recorder unit	1
Brief operation card	for DM-602R	Contained in Recorder unit	1
	for DM-604R	Contained in Recorder unit	1

#### Spare Parts List

Recording paper	DMP-250	250 mm x 20 m (A3-560)	2
Recording stylus	DMS-001	Included in a vinyl bag	2
Current feed stylus	DMS-002	Included in a vinyl bag	2

### DIMENSIONS AND WEIGHT



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**Safety precaution** To ensure proper and safe use of the equipment, please carefully read and follow the instructions in the Operation Manual.

For details, please contact:

- Deeper excavation measurement in high accuracy
- Clear recording even in slurry contaminated with dirt and sand
- High quality excavation work reducing time and cost

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# The DM-602R/604R helps improve the quality of a drilled hole and reduces working time and cost!

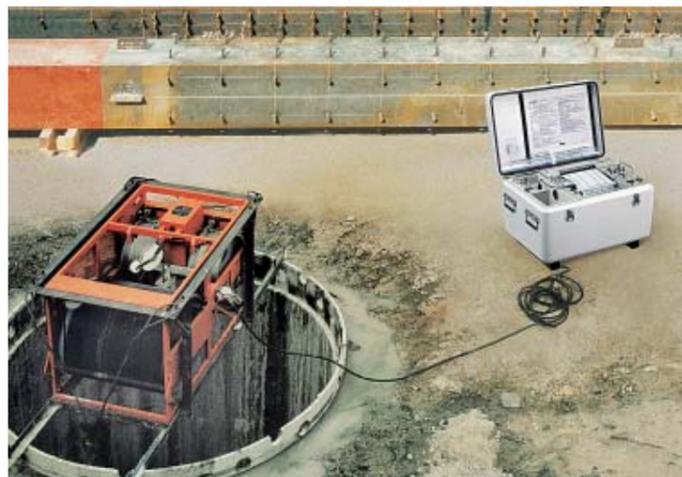
## General

Recent progress and development in foundation engineering has resulted in great strides in excavation techniques. By using artificial slurry of high density and specific gravity, deeper excavation has been made possible. The DM-602R/604R series Drilling Monitor system has been developed in compliance with the user's needs arisen from the recent construction environment to accurately measure and record the shape of a drilled hole of greater depth. It can be easily positioned and set up for measurement to provide quick and accurate recordings of excavations. The DM-602R/604R series Drilling Monitor provides the following advantages.

- Helps improve the quality of a drilled hole and reduces working time and cost.
- Provides on site records of the perpendicularity of drilled holes and the shape of cross sections in high accuracy.
- Provides numerical measurement data that can be easily imported into various Windows applications (Excel, Word, PowerPoint, etc.) for work reports, etc.

## Features

- The DM-602R/604R supplies clear records of a drilled hole even in slurry, heavily contaminated with dirt and sand.
- The DM-602R/604R supplies clear and precise records thanks to its unique signal processing technique that discriminates wall echoes from the noise.
- The DM-602R/604R has the facility to cancel the oscillation line echo that often prevents very close echo recordings.
- The sensor device is automatically controlled to stop at the casing and at the bottom of the hole. An emergency return function is also included.
- Depth range mark, depth mark, drilled hole mark, date, time, etc. can be printed on the recording paper.
- Limit switches are provided to avoid possible wire breakage or entanglement of the wire and cable.
- The recorded result can be output to an external PC via a built-in RS 232C output port.
- A non-fuse circuit breaker is used for circuit protection, eliminating the need for cumbersome fuse replacement at the construction site.



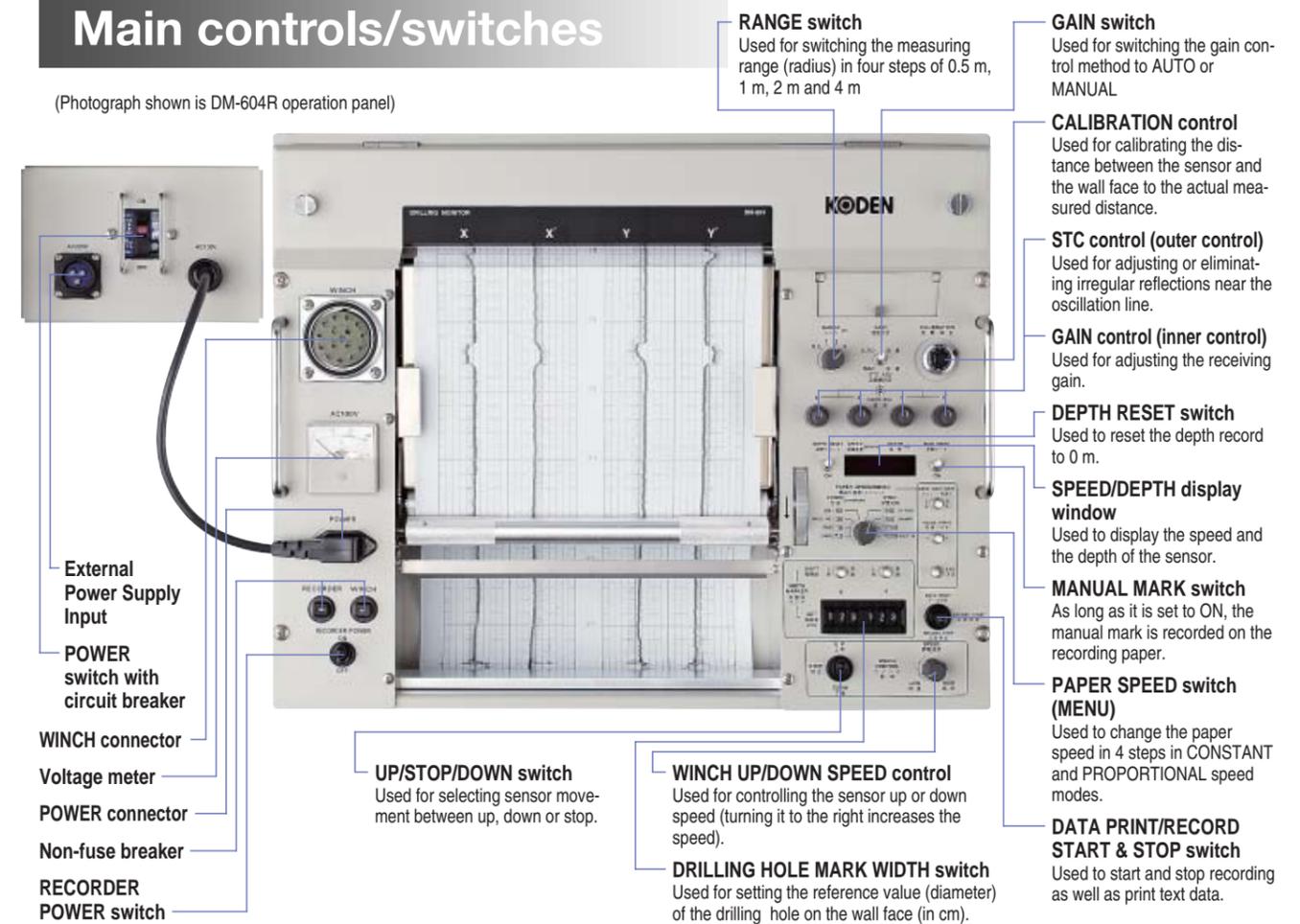
The winch unit and recorder unit on site



Recording the echo of a drilled hole

## Main controls/switches

(Photograph shown is DM-604R operation panel)



## Recording Examples

