SPECIFICATIONS

Recorder Unit

Measuring system			Ultrasonic echo sensing system		
Recording system	DM-602RR		Direct recording in two directions (X-X' or Y-Y')		
	DM-604RR		Direct recording in four directions (X, X', Y, Y')		
Recording paper			Electrosensitive recording paper 250 mm x20 m A3-560 (DMP-250)		
Measuring range (radius)	Range		0.5 m	1.0 m	2.0 m	4.0 m
	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	1/40	25 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 (15 A), A 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 (150m version is made to order)
Bottom and casing sensing system	Automatic sensing by limit switch
Operating temperature	-10°C to +50°C (14°F to 122°F)

Standard Configuration

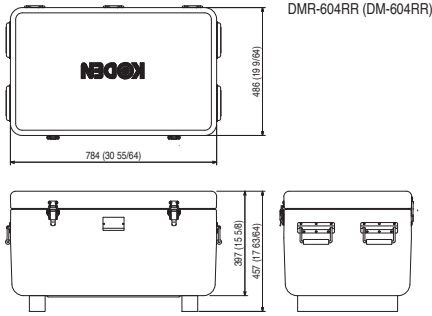
Recorder unit	DMR-602RR (DM-602RR)		
	DMR-604RR (DM-604RR)		
Power supply (Built into Recorder unit)	DMT-000R	For 100 VAC, contained in box	9 kg
	DMT-001R	For 110 VAC, contained in box	9 kg
	DMT-002R	For 220 VAC, contained in box	9 kg
Winch unit	DMW-602RR (DM-602RR)	With a sensor unit and cable	125 kg
	DMW-604RR (DM-604RR)	With a sensor unit and cable	125 kg
Connecting cable	CW-558R-10M	With 15-pin connectors	10 m
	CW-600-10M	With 8-pin connectors	10 m
AC power cable	CW-71R-10M	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-602RR	Contained in Recorder unit	1
	for DM-604RR	Contained in Recorder unit	1

Spare Parts List

Recording paper	DMP-250	250 mm x 20 m (A3-560)	2
Recording stylus	DMS-001	Contained in a plastic case	2
Current feed stylus	DMS-002	Contained in a plastic case	2

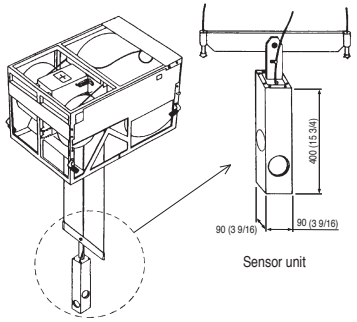
DIMENSIONS AND WEIGHT

Recorder Unit
DMR-602RR (DM-602RR)
DMR-604RR (DM-604RR)

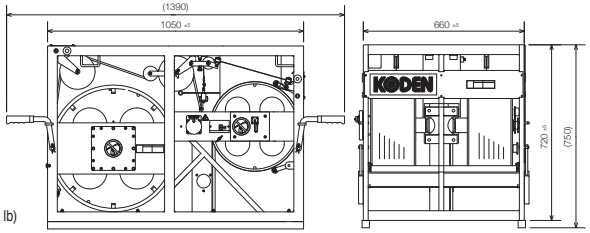


Weight: 55 kg (121 lb) (for 100/110/220 VAC)

Winch Unit
DMW-602RR (DM-602RR)
DMW-604RR (DM-604RR)



Sensor unit



Weight: 125 kg (276 lb)

Unit: mm (inch)

• Winch unit 150m version has different dimensions and weigh.

• Design and specifications are subject to change without notice.

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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:

19-09, Printed in Japan

KODEN

Ultrasonic Drilling Monitor

DM-602RR / 604RR

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

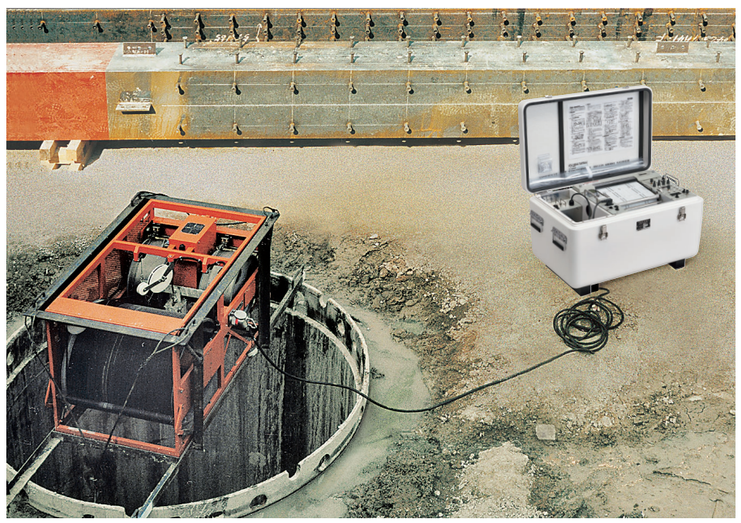
General

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-602RR/604RR 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-602RR/604RR 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

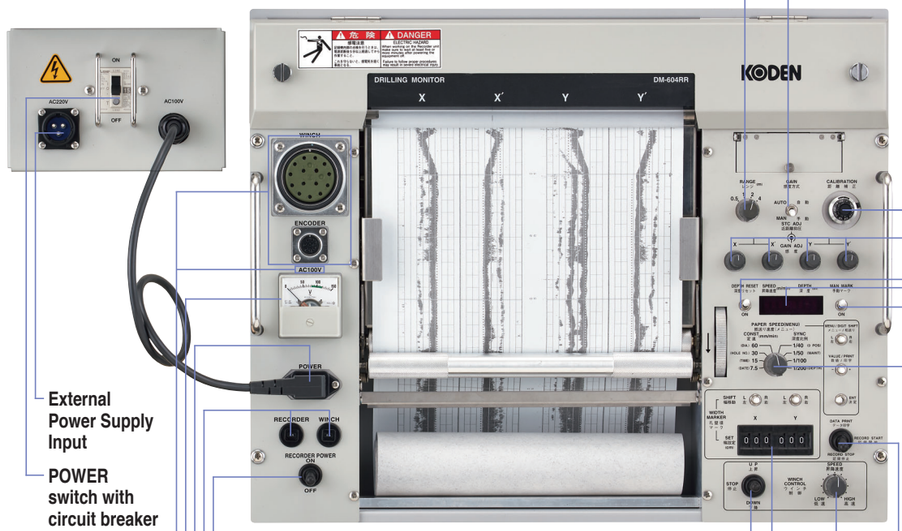
- The DM-602RR/604RR supplies clear records of a drilled hole even in slurry, heavily contaminated with dirt and sand.
- The DM-602RR/604RR supplies clear and precise records thanks to its unique signal processing technique that discriminates wall echoes from the noise.
- The DM-602RR/604RR has the facility 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

Main controls/switches

(Photograph shown is DM-604RR operation panel)



External Power Supply Input

POWER switch with circuit breaker

WINCH connector

Voltage meter

POWER connector

Non-fuse breaker

RECORDER POWER switch

RANGE switch
Used for switching the measuring range (radius) in four steps of 0.5 m, 1 m, 2 m and 4 m

GAIN switch
Used for switching the gain control method to AUTO or MANUAL

CALIBRATION control
Used for calibrating the distance between the sensor and the wall face to the actual measured distance.

STC control (outer control)
Used for adjusting or eliminating irregular reflections near the oscillation line.

GAIN control (inner control)
Used for adjusting the receiving gain.

DEPTH RESET switch
Used to reset the depth record to 0 m.

SPEED/DEPTH display window
Used to display the speed and the depth of the sensor.

MANUAL MARK switch
As long as it is set to ON, the manual mark is recorded on the recording paper.

PAPER SPEED switch (MENU)
Used to change the paper speed in 4 steps in CONSTANT and PROPORTIONAL speed modes.

DATA PRINT/RECORD START & STOP switch
Used to start and stop recording as well as print text data.

UP/STOP/DOWN switch
Used for selecting sensor movement between up, down or stop.

WINCH UP/DOWN SPEED control
Used for controlling the sensor up or down speed (turning it to the right increases the speed).

DRILLING HOLE MARK WIDTH switch
Used for setting the reference value (diameter) of the drilling hole on the wall face (in cm).

Recording Examples