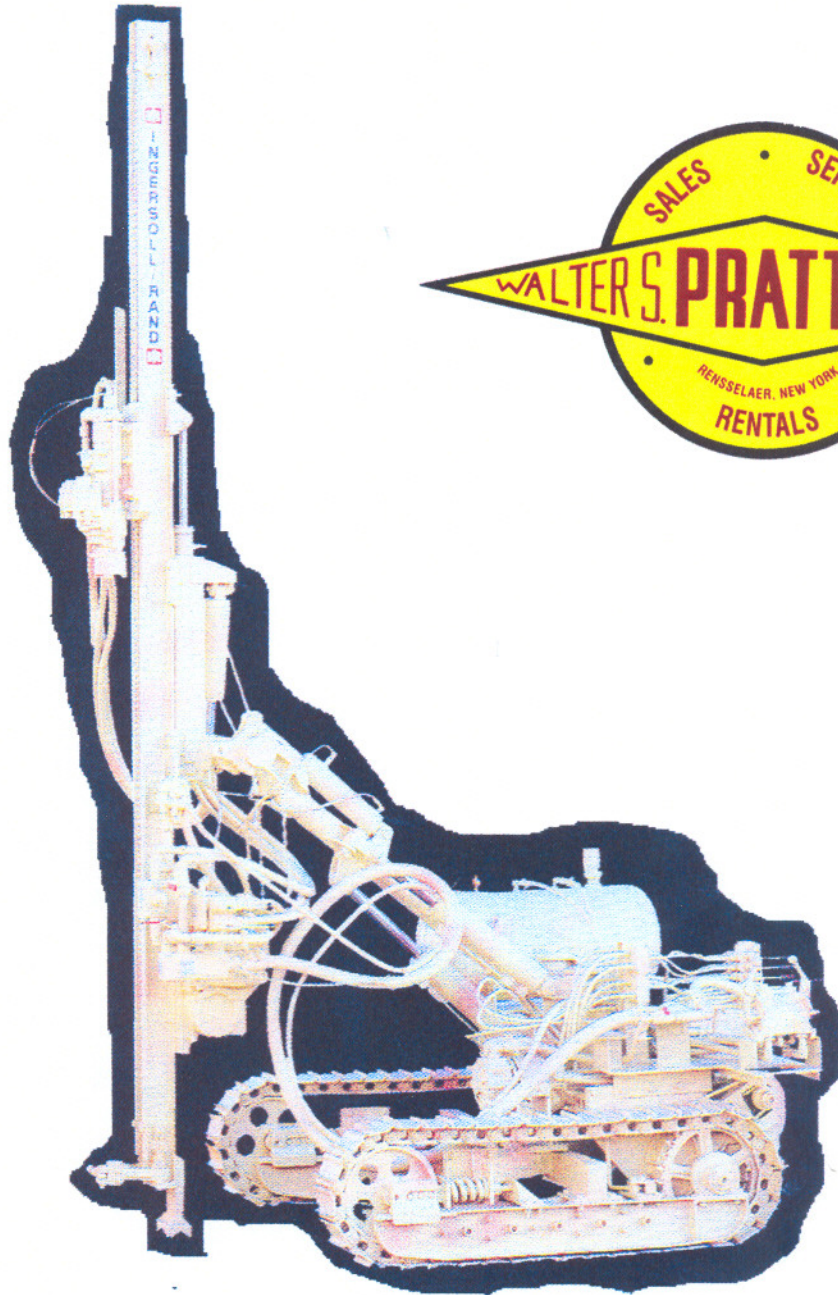


# LM100A Crawlair® Drill



**INGERSOLL-RAND**





# Infrastructure - Drilling Solutions

Select Model:

LM100A
CM348
ECM350

## Pneumatic Crawler - LM100A



The LM100A is a small class pneumatic crawler, capable of drilling 1-3/4" to 4- 1/2" (44 - 114 mm) diameter holes. It can be equipped with either of two drifters or a BRH rotary head for downhole drilling. The LM100A is ideal for applications in confined areas where hand-held tools are not enough, and is light enough to transport by helicopter. Like all Ingersoll-Rand crawler drills, the LM100A is "Abuse Resistant". It keeps coming back for more!

[ SPECS ]

[ FEATURES ]

[ LITERATURE ]

Nominal Hole Diameter	
Diameter	1-3/4 - 2-1/2 in.
Carrier	
Overall Track Length	72" / 1845 mm
Ground Clearance	9" / 230 mm
Oscillation	20°
Air Motors	4.5 HP
Gradeability	30°
Tramming Speed	0-2 mph / 0-3.2 km/hr
Drifter	
Type	Ingersoll-Rand YD90
Hole Diameter #1	1.75-2.5" / 44-64 mm
Frequency #1	1600 BPM
Air Consumption #1	375 scfm @ 100 psi & 50 rpm / 10.6 m3/min @ 7 kg/cm2 & 50 rpm
Stroke #1	3.4 in. / 85 mm.
Bore #1	3.5 in. / 90 mm.
Steel Size #1	10 ft / 3048 mm
Drifter #2	VL120
Hole Diameter #2	2 - 3.5 in. / 51 - 89 mm.
Frequency #2	1900 BPM
Air Consumption #2	600 SCFM @ 50 RPM & 100 psi / 17.0 m3/min @ 50 RPM & 7 kg/cm2
Stroke #2	3.62 in. / 92 mm.
Bore #2	4.75 in. / 120 mm.
Steel Size #2	10 ft / 3048 mm
Guide	
Guide Dump #1	75°
Guide Swing (L/R)	45 deg/45 deg
Guide Extension #1	29" / 750 mm
Drill Rod Length	10 ft. / 3 m
Feed Motor Pull	3000 lbs. / 1360 kg.
Boom	
Boom Swing (L/R) #1	30/35°

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# AIR CRAWLER DRILLS

## LM100A

The LM100A is the smallest member of the Crawlair family. This rig is designed to fit into those tight places where otherwise you would have to use hand-held sinkers or jackdrills. Even though the LM100A is small in size, it does not lose any of the needed power. It is a fully mechanized, self propelled, heavy duty drill that is ideal for work in confined areas and is light enough to be transported by a helicopter. The LM100A is a simple one-man operation machine. Tramming controls are located beside the left track and the drilling controls are mounted on the guide for convenience in multi-pass drilling. Quick positioning is assured by a 8.5hp (6.3kw) air powered hydraulic pump. The compact rugged crawler has a mainframe walking beam oscillation so the tracks can conform to ground irregularities. Powered by two independent 4.5hp air motors, it can tram up to two miles per hour. When combined with the Ingersoll-Rand P375 portable compressor which delivers 375cfm there is plenty of air to operate the drill and crawler functions. The LM100A is equipped with the Ingersoll-Rand YD-90 drifter and this drifter has ample power for drilling holes up to 2 1/2" (64mm). The LM100A may also be equipped with the BRH Rotary Head and DHD's for holes up to 4 1/2" (115mm). Integral air motor drive provides independent rotation with infinite variable speed control.

### SPECIFICATIONS

<b>DIMENSIONS</b>		<b>GUIDE</b>	
Weight (less drifter)	5400 lbs (2450kg)	Feed Motor Pull	3000 lbs (1360kg)
Minimum Height	44" (1120mm)	Drill Steel Change	120" (3048mm)
Width	75" (1905mm)		
Height Of Guide Vertical	195" (4950mm)	<b>TRACKS</b>	
Ground Clearance	9" (230mm)	Grouser Width	8" (204mm)
Length (guide horizontal)	195" (4950mm)	Length (ground contact)	51.2" (1300mm)
		Ground Contact Area	410 in <sup>2</sup> (5304cm <sup>2</sup> )
<b>BOOM &amp; GUIDE MOVEMENTS</b>		Number Of Track Rollers	5
Boom Extension Length	0°	Adjustment	mechanical
Boom Swing	30° left	Oscillation	mech.-20°
	35° right	Propel Motors	4.5 hp per track
Vertical Boom Movement	45° up	Tractive Force	4469 lbs (2301kg)
	30° down	Tramming Speed	0-2 mph (0-3.2km/hr)
Guide Tilt	45° left	Gradeability	30°
	45° right	Brake System	dog tooth
Dump w/o Pin Change	75°	Overall Track Length	84" (2130mm)
Power Guide Extension	29" (750mm)		
Coverage Length			
Vertical Holes L-R	107" (2720mm)		
Maximum Drill Height-Horizontal	99" (2510mm)		

### PENETRATION RATES (Ft/hr)

DRILL MODEL NUMBER		AIR REQUIREMENTS		HOLE SIZE INCHES							
Drifter	Downhole Drill	SCFM*	Pressure (PSIG)	1.75	2.0	2.25	2.5	3.0	3.5	4.0	4.5
		*air required for DHD includes DHD, ARH & Feed									
YD90		375	100	135	110	90	80	60			
	DHD3.5	350	150						70		
	DHD4	450	150							81*	68
	DH4M	450	150							81*	68
	DHD340A	350	150							58*	48
		520	250							110*	92
		710	350							150*	126

Rock type, ambient temperature, altitude and other facts must be taken into account to estimate penetration rates at specific jobs. Test conducted in Barre Granite.  
\* Actual bit diameters are 4 1/8.

Continued



machines sold in other areas of the world will have controls on the drill guide.

## 5. SPECIFICATIONS.

Tables 1 and 2 list the specifications of the machine.

**Table 1. General Specifications**

Characteristic	Description	
	English	Metric
Weight .....	5,400 lbs.	2,450 kg
Overall Length - boom at 45°		
Guide Vertical .....	115 in.	2920 mm
Overall Height - boom at 45°		
Guide Vertical .....	188 in.	4,775 mm
Overall Width .....	75 in.	1,900 mm
Track Length (overall) .....	72 in.	1,845 mm
Track Width (Grouse width) .....	8 in.	204 mm
Track Oscillation .....	20 °	20 °
Gradeability .....	30 °	30 °
Ground Clearance .....	9 in.	230 mm
Tramming Speed .....	0-2.0 mph	0-3.2 km/hr
Drawbar Pull .....	2750 lbs.	1250 kg

**Table 2. Boom and Guide Specifications**

Characteristic	Description	
	English	Metric
Horizontal Boom Swing .....		
Right .....	35°	35°
Left .....	30°	30°
Vertical Boom Lift		
Above Horizontal .....	45°	45°
Below Horizontal .....	30°	30°
Guide Swing Movement		
Right .....	45° in.	45° mm
Left .....	45°	45°
Guide Dump Movement .....	75°	75°
Guide Extension .....	29.5	750



# SPECIFICATIONS

## *Specifications, Dimensions, Performance*

Prepared for:

### **Manufacturer**

Model	LM100A
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### **POWER SYSTEM**

Compressor cfm/cu-m/min	REFER DRIFTER/ROTRY HEAD
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### **DRIFTER/ROTARY HEAD**

Model	YD90
Nominal HP/kW	6/4.5
@ psi/kg-cm	100/7.0
BPM	1700
Hole Range (in/mm)	1.75-2.5/45-64

Prepared by:  
CORPORATE  
ADMINISTRATOR  
Walter S. Pratt & Sons,  
Inc.  
518-465-1549

### **DIMENSIONS**

Gross Weight (lbs/kg)	5400/2450
Shipping Length (in/mm)	195/4950
Shipping Height (in/mm)	44/1120
Shipping Width (in/mm)	75/1905
Operating Height (in/mm) (Guide Vert)	188/4775

### **CARRIER**

Gradeability (deg)	30
Oscillation (deg)	20
Tram Motor (hp/kw per track)	4.5/3.4
Tram Speed (mph/km-hr)	2.0/3.2
Track Length - ground contact (in/mm)	51.2/1300
Grouser Width (in/mm)	8/204
Ground Clearance (in/mm)	9/230

### **BOOM AND GUIDE**

Feed Force (lbs/kg)	3000/1360
Steel Change (in/mm)	120/3048
Guide Swing L/R (deg)	45/45

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September 06, 2000





# SPECIFICATIONS

## *Specifications, Dimensions, Performance, continued*

Prepared for:

### **BOOM AND GUIDE**

Guide Dump (deg)	75
Guide Extension (in/mm)	29/750
Boom Swing L/R (deg)	30/35
Boom Dump Up/Down (deg)	45/30
Boom Extension (in/mm)	0

### **OPTIONS**

Options	MECH ANGLE INDICATOR

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September 06, 2000

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## YD90 DRIFTER

### SPECIFICATIONS

<u>DESCRIPTION</u>	<u>SIZE</u>
Hole Diameter	1 3/4-2 1/2" (44-64mm)
Bore	3.5" (90mm)
Weight	187 lb. (85 kg)
Blow Tube O.D.	.44" (11mm)
BPM	1600
Air Consumption	375 SCFM @100 psi (10.3m <sup>3</sup> /min @ 7kg/cm <sup>2</sup> )
Stroke	3.4" (85mm)
Type Shank	Standard
Type Rotation	Ind. Air
Power Factor	.5

#### DRILL ROD

Rod Diameter	1 1/4"
Rod Length	10' (3048mm)

## VL120 DRIFTER\*

### SPECIFICATIONS

<u>DESCRIPTION</u>	<u>SIZE</u>
Hole Diameter	2-3 1/2" (51-89mm)
Bore	4.75" (121mm)
Weight	375 lb. (170 kg)
Blow Tube O.D.	.56" (14mm)
BPM	1900
Air Consumption	600 SCFM @100 psi (17.0m <sup>3</sup> /min @ 7kg/cm <sup>2</sup> )
Stroke	2.75" (70mm)
Type Shank	1 3/4" (44mm)
Type Rotation	Ind. Air
Power Factor	.8

#### DRILL ROD

Rod Diameter	1 1/4"
	1 1/2"
	38mm
	45mm
Rod Length	10' (3048mm)

\* This drifter is authorized as an alternate drifter for use with the LM100A with a special heavy duty feed chain.

## BRH ROTARY HEAD

### SPECIFICATIONS

<u>DESCRIPTION</u>	<u>SIZE</u>
Weight	304 lb. (138kg)
Horsepower	4.5 bhp @ 100psi (3.35kw @ 689.5kPa)
Rotation Range	0-50 rpm
Max. Stall Torque	700 lb-ft @ 100 psi (96.7kgm @ 689.5kPa)
Gear Ratio	20:1
Air Consumption*	120 SCFM @100 psi (3.39 m <sup>3</sup> /min @ 7kg/cm <sup>2</sup> )

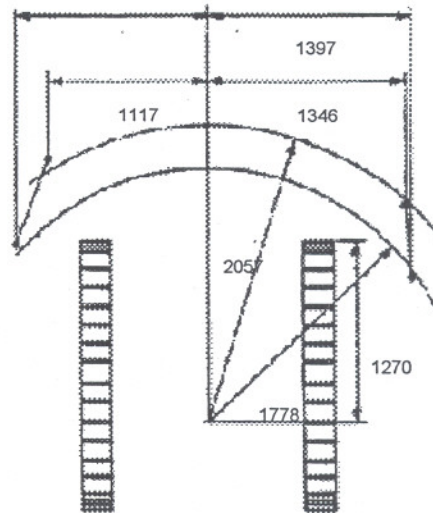
\* NOTE: Air consumption figure is for rotary head only. For total air consumption (DHD, BRH and feed) see Penetration Rate Chart on front.

## PERFORMANCE SNAP SHOTS

### *Vertical Drill Coverage*

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All figures shown are in millimeters. Shaded area can be covered by relocating the guide extension cylinder.

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