

MKT "McKiernan-Terry" MODELS 1, 2, 3, 5, 6, & 7 FLUID-VALVE • DOUBLE ACTING PILE HAMMERS

Models 1, 2,
3, 5, 6 & 7
Fluid-Valve
Double-Acting
Pile Hammers

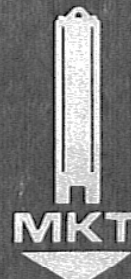
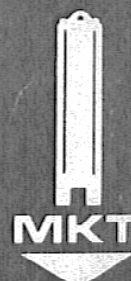
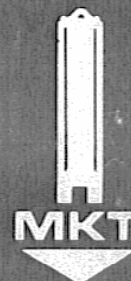
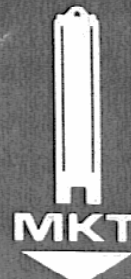
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VERSATILITY & DURABILITY REDUCE COST!

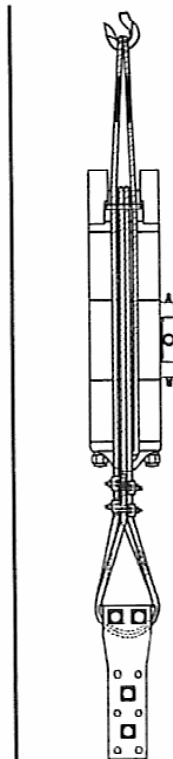
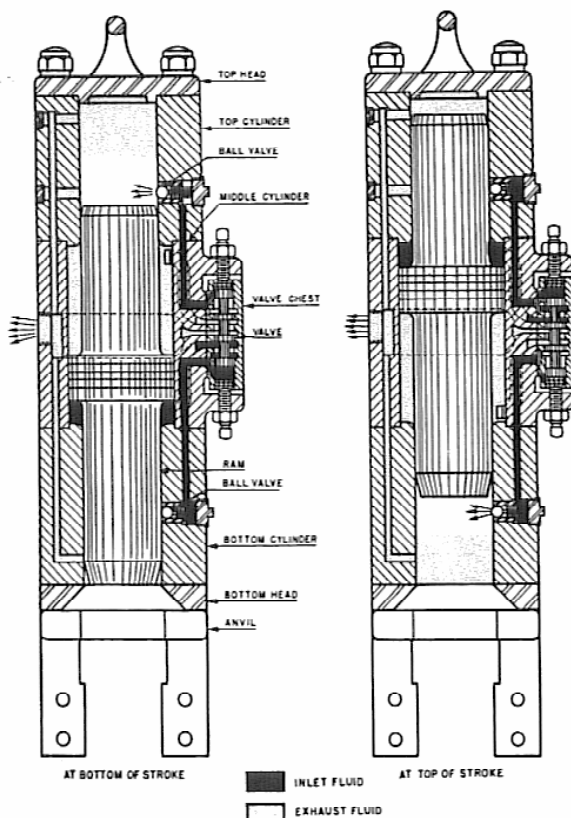


- Drive and Pull Sheet and Light Bearing Pile.
- Drive Sectional Underpinning.
- Drive and Pull Horizontal Tie Bars.
- Mount on a crane, wheel tractor, fork-lift, hydraulic excavator, etc.
- Deliver high-production, uncushioned, ram-to-pile blows.
- Contain low-maintenance, free floating rams.
- Use easily-attached, pile-protecting drive caps.
- Have pre-drilled legs for attachment of inexpensive pile-lead adapters.
- Power with steam or air.

If you install water, gas or sewer lines; build subways; construct light, pile foundations; erect small piers, docks or quays; drive retaining walls; underpin buildings; drill water wells; demolish concrete structures; or drive piles in limited headroom and tight quarters, an MKT Double- Acting, Fluid-Valve Pile Hammer should be at your disposal. To shorten your construction schedule and lower your costs, examine the usefulness of one of these hammers with an MKT Representative.



OPERATION AND BASE ATTACHMENTS



USE IN EXTRACTING

MKT double-acting fluid-valve hammers, numbers 2, 5, 6, and 7, may be inverted, and by exchanging a pulling plug for a driving plug, and with the aid of a pulling rig, may be used for rapid, trouble-free pile extraction. The powerful, vibratory striking action of the inverted hammer permits the pile to be broken loose from sticky soils and extracted with minimum crane pull. These pulling rigs, as illustrated, can be obtained from MKT Corporation.

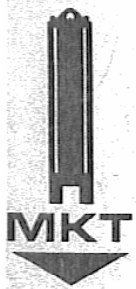
HOW MKT FLUID - VALVE HAMMERS OPERATE

At the beginning of the operating cycle, as the fluid pressure is admitted to the hammer, the spool valve rises and permits high pressure inlet fluid to pass to the underside of the piston. The ram therefore rises, first blocking the upper balancing port, then opening the lower balancing port. This permits the high pressure gases to escape from the underside of the spool valve through the open balancing port into the exhaust, and the valve is forced downward by the high pressure trapped in the upper balancing line.

A path for the high pressure inlet gases is therefore opened to the topside of the piston, and spent gases exhaust from below the piston. The piston is now pushed downward. As it falls, it first blocks the lower balancing port, then opens the upper balancing port. Consequently, the pressures on the ends of the spool valve again become unequal, and as the ram reaches the bottom of its stroke, the valve is again thrust upward and the cycle is repeated.

ANVILS AND DRIVE CAPS

In addition to flat anvils for MKT fluid-valve hammers, Models 6 & 7 can be fitted with cup anvils to drive timber piles. An anvil block to drive from 6" to 10" H beam is available for the #7 hammer. Anvil blocks and drive caps for various sections of steel-sheet piling are available for the 5, 6 & 7 hammers. See the MKT Accessories Bulletin for details.



SPECIFICATIONS AND APPLICATIONS

Models 1, 2,
3, 5, 6 & 7
Fluid-Valve
Double-Acting
Pile Hammers

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HAMMER SIZE	No.	1	2	3	5	6	7
Weight of ram, lbs.		21	48	68	200	400	800
Rated striking energy per blow, ft. lbs.					1000	2500	4150
Rated speed, blows per minute, normal		500	500	400	300	275	225
Boiler horsepower required,		15	15	25	35	45	65
Compressed air required, actual cubic feet at hammer,		70	70	110	250	400	450
Steam or air pressure required at hammer,		100	100	100	100	100	100
Min. size hose openings and connections from boiler/comp. to hammer, inches		¾	¾	1	1¼	1¼	1½
Bore, inches		2¼	4	3¼	7	9¾	12½
Stroke, inches		3¾	4¾	5¾	7	8¾	9½
Net weight with flat or bell (cup) anvil, hammer only, lbs.		145	343	675	1500	2900	5000
Shipping weight, hammer and fittings, lbs.		185	380	735	1560	2970	5075

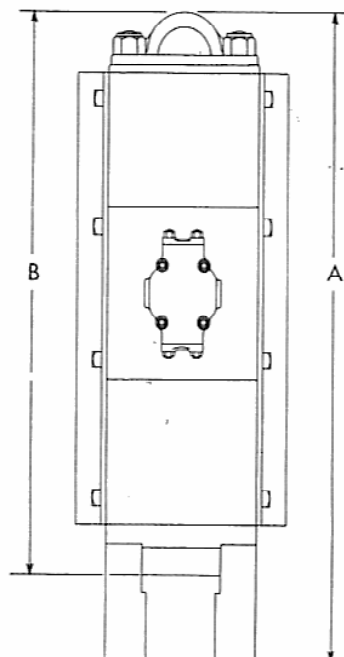
NOTES:

1. Boiler horsepower is given in ASME rating.

2. Since the volume and pressure of compressed air delivered to a hammer will vary with compressor condition, weather, length and condition of the air line, and other varying factors, air consumption is given in this manner. Generally, to assure satisfactory hammer operation, your compressor should be able to deliver 150% of this actual compressed air volume.

3. Steam or air pressure is given at the hammer in pounds per square inch. Pressures required at the boiler or air compressor will vary with weather, installation of the boiler, length and type of steam or air line used. Steam pressure must be regulated at the prime mover to run the hammer to speed.

2 Does Not Include Step
* Front To Back
† Side To Side

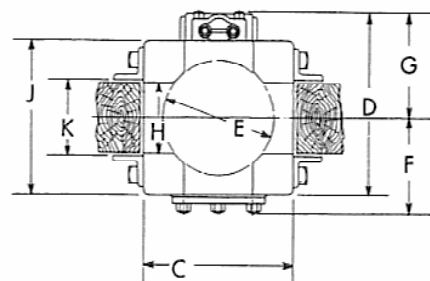


P. H. No.	DIMENSIONS IN INCHES									
	A	B	C	D	E	F	G	H	J	K
1	42½	39¼	8½	6¾	2½	4¼	2¼ & 3¼	4½		
2	32¾	29	8¼	9¼	4¾	3¾	5¾	3	6¾	3¼
3	57¾	52¾	9	10¼	3¾	7	3¾	9¼		
5	57	50¾	11	14¾	6	5½	9¾	4¾	11	6
6	63¾	54¾	15	19¾	11¼	7½	11¾	7	15	6½
7	72½	63	21	23¾	16	8¾	14¾	7* 11†	16	6½

APPLICATION GUIDE FOR FLUID-VALVE HAMMERS

Hammer Model	1	2	3	5	6	7
Typical Site Conditions —	Common soil such as sand, loose gravel, silt & loam. Low head-room. Light holding devices.					
Typical max. Pile-Bearing Load — tons	—	—	—	5	12	20
Timber pile — Normal max. diameter, inches	—	—	—	4	6	10
Typical penetration, feet	—	—	—	10-15	15-20	20-25
Pipe pile — Normal max. diameter, inches OD	—	3	—	4	6	10
Typical penetration, closed-end, feet	—	5-10	—	15-20	15-20	20-25
H-beam — Normal max. size, inches	B10L	B10L	B12L	BS4	B6	BP-8
Typical penetration, feet	2-3	3-4	4-5	10-15	15-20	20-25
Wood sheet — Normal max. size, inches	3x10	3x8	3x12	4x12	6x12*	10x14*
Typical penetration, feet	4-6	6-10	6-10	10-15	10-15*	15-20*
Steel sheet — Normal max. depth, inches	1¾	1¾	1¾	3½	5	3½*
Typical penetration, feet	5-10	10-15	10-15	15-20	20-30	20-30*

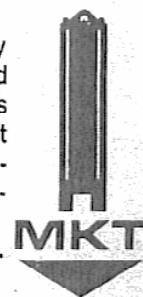
* Driving 2 sheets at a time.



SPECIAL DRIVING ADAPTERS

All sizes of McKiernan-Terry double-acting fluid-valve hammers have been adapted to a wide variety of operations requiring a continuous impact blow. McKiernan-Terry hammers such as those described in this brochure have been successfully adapted for such applications as knocking skulls and lip skulls out of ladles in blast furnaces, knocking ingots out of molds in steel mills, tapping and opening cast holes in blast furnaces, driving keys on sow and die blocks in large forging hammers, driving metal culverts horizontally in retaining walls, and "cleaning" huge locomotive tender frame castings by impact-produced vibration, to name a few.

McKiernan-Terry engineers welcome inquiries concerning special applications of their equipment. When inquiring about special purpose modifications, please submit dimensional sketches of application.



PACO Equipment | USA (WA/CA) - CANADA (Alberta / BC / Saskatchewan)

Corporate Office: 250 S. Webster Street Seattle, WA 98108 | 800.658.6379 | pacoequip.com

BEARING CAPACITY AND ORDERING INSTRUCTIONS

6 & 7 AS BEARING HAMMERS

Hammer	Blows per inch	1	2	3	4	5	6	7	8	9	10
#6	Bearing, Tons	2.27	4.17	5.81	7.14	8.33	9.39	10.28	11.11	11.84	12.50
#7		3.77	6.92	9.65	11.86	13.83	15.37	17.08	18.44	19.66	20.75

Pile Static Load Bearing Values
for McKiernan-Terry Nos. 6 & 7 Double-Acting Hammers Using Engineering News Formula

$$L = \frac{2E}{S+1}$$

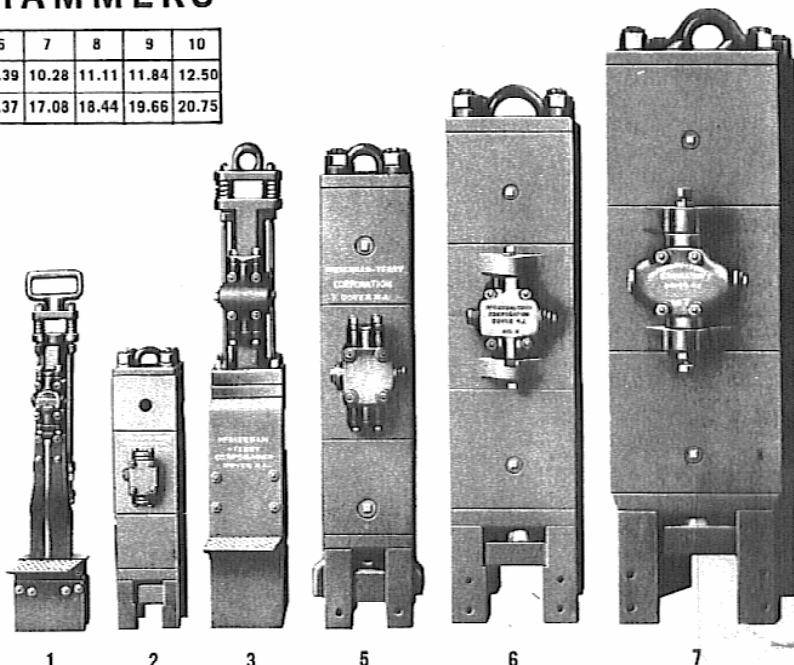
where:

L = Safe bearing capacity of pile in pounds.

E = Rated energy delivered per blow of the hammer.

S = Set, or penetration, of pile in inches per blow.

0.1 = Constant



ORDERING INFORMATION

Hammers are furnished with Anvil Block, Lubricator, Angle-Iron Guides attached (excluding 1, 2 & 3), basic fittings and special tools.

Anvil Blocks — The model 7 hammer is furnished with Flat or Cup Anvil within the unit price. Specify which is desired. Other hammers are furnished with Flat Anvil only within the unit price. Other Anvils and Drive Caps are available at additional cost.

Lubricator — The models 5, 6 & 7 hammers are furnished with either a steam or air line lubricator within the unit price. Specify whether the hammer will be operated with compressed air or steam. The 1, 2 & 3 hammers are furnished with a manual line oiler.

Angle-Iron Guides — The model 7 hammer is drilled, tapped and provided with angle-iron guides within the unit price. Angle-iron guides are available for models 5 & 6 hammers at added cost. If angle-iron guides are desired, specify the lead rail width for which they are to be attached (see maximum spacing in specifications). Angle-iron guides built out to greater than the hammer width are available at additional cost.

Sheet Pile Spacing — Hammer model 1 is furnished to straddle 2 inch or 3 inch wood sheeting. Specify the size of sheeting to be driven.

WE RESERVE THE RIGHT TO AMEND THESE SPECIFICATIONS AT ANY TIME WITHOUT NOTICE. THE ONLY WARRANTY APPLICABLE IS OUR STANDARD WRITTEN WARRANTY. WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED.

