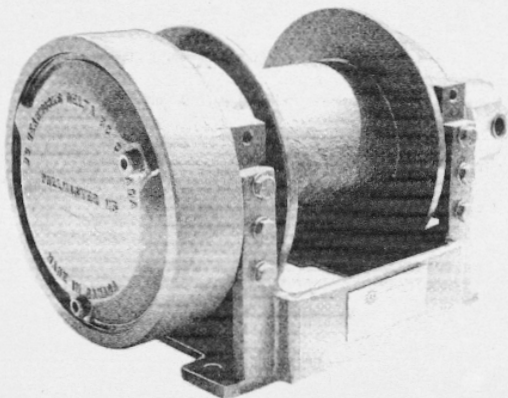


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**Hydraulic Service, Inc.**

# M5

PLANETARY, HYDRAULIC WINCH



**EQUAL SPEED  
DRAWS TONS**

 **PULL MASTER** 

**THE LOGICAL CHOICE**

# MODEL M5 PLANETARY HYDRAULIC WINCH

## DESCRIPTION

The **PULLMASTER Model M5** is a high performance, high efficiency planetary winch, having equal speed in forward and reverse rotation. The automatic, multi-disc type brake of this unit is effective in one direction only and achieves an exceptionally smooth lowering control of the maximum load in a stepless operation. The **PULLMASTER Model M5** is powered by a hydraulic gear motor and the required reduction ratio of 76:1 is established by two planetary stages. The hydraulic motor drives direct into the planetary reductions. When forward rotation is stopped, the load on the cable drum causes the over-running clutch to lock and the maximum load is held safely by the disc brake. The multi-disc brake is spring applied-pressure released. When the hydraulic motor is powered for "lowering", the brake is released automatically and is then modulated for the desired lowering speed by a single lever control. All moving parts of the **PULLMASTER Model M5** winch are totally enclosed and run in an oil bath. Anti-friction bearings are used on all turning components, assuring a long, trouble-free service with a minimum requirement for maintenance.

During lowering operations of the winch, the friction created by the brake discs results in temperature. This temperature is dissipated by an internal flow of hydraulic fluid through the brake housing of the winch (approx. 1 GPM). The circulation flow is supplied internally from the hydraulic motor and must be returned directly to the reservoir by a circulation return line. As an option, the unit is supplied with facilities for external circulation flow. The external circulation option is recommended for operation where the winch must work in sub-zero temperatures.

## PERFORMANCE

Based on a hydraulic volume of 14.5 (US) gpm (55 l/min) at 2000 psi (138 bar) hydraulic pressure

Drum rpm at maximum volume = 35 rpm

Drum torque at maximum pressure = 22500 lb. in (2542 Nm)

MODEL NUMBER	BARE DRUM		MEAN DRUM		FULL DRUM	
	LINE PULL	LINE SPEED	LINE PULL	LINE SPEED	LINE PULL	LINE SPEED
M5-3-10-1	6,000 lb	69 fpm	5,052 lb	84 fpm	4,104 lb	100 fpm
	26.7 kN	21 m/min	22.5 kN	26 m/min	18.3 kN	30 m/min
M5-3-10-2	6,000 lb	69 fpm	4,772 lb	82 fpm	3,544 lb	116 fpm
	26.7 kN	21 m/min	21.2 kN	28 m/min	15.8 kN	35 m/min
M5-3-10-4	6,000 lb	69 fpm	4,772 lb	82 fpm	3,544 lb	116 fpm
	26.7 kN	21 m/min	21.2 kN	28 m/min	15.8 kN	35 m/min

The volumetric requirement for the **PULLMASTER Model M5** planetary winch is a recommended maximum and should not be exceeded. When the **PULLMASTER Model M5** is installed in existing hydraulic circuit with a lesser volume and/or pressure, the performance will change accordingly.

Performance graphs for line pull vs. oil pressure and line speed vs. oil volume are available on request.

## CABLE STORAGE

### DRUM CABLE STORAGE CAPACITY FOR WIRE ROPE

MODEL NUMBER	DRUM SIZE			WIRE ROPE DIAMETER*						
	BARREL	FLANGE	LENGTH	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"
M5-3-10-1	7.00"	11.50"	8.00"	2115 ft	959 ft	532 ft	359 ft	227 ft	166 ft	152 ft
	178 mm	292 mm	203 mm	645 m	292 m	162 m	109 m	69 m	51 m	46 m
M5-3-10-2	7.00"	13.50"	8.00"	3386 ft	1545 ft	812 ft	535 ft	375 ft	297 ft	231 ft
	178 mm	343 mm	203 mm	1032 m	471 m	247 m	163 m	114 m	90 m	71 m
M5-3-10-4	7.00"	13.50"	12.00"	5077 ft	2317 ft	1218 ft	802 ft	562 ft	445 ft	347 ft
	178 mm	343 mm	305 mm	1547 m	706 m	317 m	244 m	171 m	136 m	106 m

\* The cable anchor of the **PULLMASTER Model M5** planetary winch is not designed to hold the rated maximum load. The cable drum requires 3 to 4 wraps of wire rope for security.

## DIMENSIONS

DRUM CODE	B	C	E	H	J	UNITS
-1	11.5 292	9.0 203	12.6 321	15.500 393	24.3 617	1 in. mm
-2	13.5 343	9.0 203	13.6 346	13.500 342.90	24.3 617	1 in. mm
-4	13.5 343	12.0 305	13.6 346	17.500 444.50	24.3 617	1 in. mm

