

Ryan



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Hydraulic Service, Inc.

# H18

PLANETARY, HYDRAULIC WINCH



**MASTER**

**THE LOGICAL CHOICE**

**RAPID REVERSE**

# MODEL H18 PLANETARY HYDRAULIC WINCH

## DESCRIPTION

The PULLMASTER Model H18 is a high performance, high efficiency planetary winch with a "Rapid Reverse" feature. The reversing or lowering line speed is 1.6 time faster than forward or hoisting speed. The automatic, multi-disc brake of this unit is effective in one direction only and achieves exceptionally smooth lowering control of a load. In reverse rotation (lowering), the maximum load can be positively controlled at line speed equal to the hoisting line speed. Only loads, reduced by a ratio of 4.6 of the maximum capacity of the winch can be safely lowered at the maximum reversing speed. The PULLMASTER Model H18 planetary winch is powered by a hydraulic gear motor and the required reduction ratio of 39.56:1 is established by two planetary reduction stages. In forward (hoisting) rotation, the hydraulic motor drives direct into the planetary reduction stages without affecting the brake assembly. When forward (hoisting) rotation is stopped, an over-running clutch, located between the brake assembly and the motor drive shaft, locks and the multi-disc brake will positively hold the maximum load with a safety factor of 3:1. The multi-disc brake is spring applied and pressure released, requiring no calibration for safe operation. When the hydraulic motor is powered for reverse rotation (lowering) the brake is released automatically and is then modulated for the desired lowering speed by a single control lever. A counter-balance valve or brake valve is not required for dynamic braking. All moving parts of the PULLMASTER Model H18 planetary winch are totally enclosed and run in an oil bath, assuring a long, trouble free service with minimum requirement for maintenance.

## OPTIONS

- SPECIAL DRUM SIZES • HYDRAULICALLY ACTUATED FREE SPOOLING • RATCHET & PAWL • EXTERNAL BRAKE RELEASE
- HYDRAULIC PISTON MOTORS • DRUM GROOVING • ETC.

## PERFORMANCE

The performance of the Pullmaster Model H18 is based on a hydraulic volume of 76 (US) gpm (288 l/min) at 2300 psi (159 bar) hydraulic pressure. Drum revolutions at maximum hydraulic volume = 50.5 rpm. Drum torque at a maximum hydraulic pressure = 83,250 lb-in (9406 Nm).

| MODEL NUMBER                           | BARE DRUM           |                     |                      | MEAN DRUM           |                     |                       | FULL DRUM           |                     |                       |
|--|---------------------|---------------------|----------------------|---------------------|---------------------|-----------------------|---------------------|---------------------|-----------------------|
|  | LINE PULL           | LINE SPEED          |                      | LINE PULL           | LINE SPEED          |                       | LINE PULL           | LINE SPEED          |                       |
|  |                     | FORWARD             | REVERSE              |                     | FORWARD             | REVERSE               |                     | FORWARD             | REVERSE               |
| H18-3-101-1<br>based on 3/4" wire rope | 18000 lb<br>80.0 kN | 122 fpm<br>37 m/min | 563 fpm<br>171 m/min | 14644 lb<br>65.1 kN | 159 fpm<br>48 m/min | 730 fpm<br>222 m/min  | 11288 lb<br>50.2 kN | 195 fpm<br>59 m/min | 897 fpm<br>273 m/min  |
| H18-3-101-2<br>based on 3/4" wire rope | 12109 lb<br>53.9 kN | 182 fpm<br>55 m/min | 836 fpm<br>255 m/min | 10379 lb<br>46.2 kN | 218 fpm<br>66 m/min | 1003 fpm<br>306 m/min | 8649 lb<br>38.5 kN  | 255 fpm<br>78 m/min | 1171 fpm<br>357 m/min |

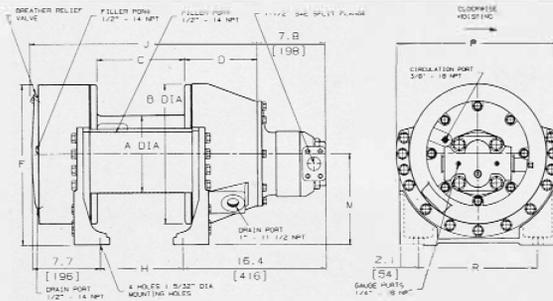
The volumetric requirement for the PULLMASTER Model H18 is the recommended maximum and should not be exceeded. When the PULLMASTER Model H18 is installed in existing hydraulic circuits with a lesser operating volume or lower pressure, the performance will change. Performance graphs for line speed vs. oil volume and line pull vs. hydraulic pressure are available upon request.

## CABLE STORAGE

| MODEL NUMBER | DRUM SIZE |        |        | WIRE ROPE DIAMETERS |         |        |        |        |        |        |
|--------------|-----------|--------|--------|---------------------|---------|--------|--------|--------|--------|--------|
|              | DRUM      | FLANGE | LENGTH | 3/8"                | 7/16"   | 1/2"   | 9/16"  | 5/8"   | 3/4"   | 7/8"   |
| H18-3-101-1  | 8.5"      | 15.5"  | 10"    | 615 ft              | 494 ft  | 332 ft | 310 ft | 239 ft | 170 ft | 113 ft |
|              | 216 mm    | 394 mm | 254 mm | 187 m               | 151 m   | 101 m  | 94 m   | 73 m   | 52 m   | 34 m   |
| H18-3-101-2  | 13"       | 20"    | 16"    | 1359 ft             | 1088 ft | 738 ft | 681 ft | 528 ft | 375 ft | 251 ft |
|              | 330 mm    | 508 mm | 406 mm | 414 m               | 332 m   | 225 m  | 208 m  | 161 m  | 114 m  | 76 m   |

## DIMENSIONS

Other drum sizes will be made available for quantity requirements.



| MODEL NUMBER | A              | B               | C             | D              | F               | H                 | J               | M                | P               | R                  |
|--------------|----------------|-----------------|---------------|----------------|-----------------|-------------------|-----------------|------------------|-----------------|--------------------|
| H18-3-101-1  | 8.5"<br>216 mm | 15.5"<br>394 mm | 10"<br>254 mm | 8.3"<br>211 mm | 17.8"<br>455 mm | 9.43"<br>239.5 mm | 25.9"<br>658 mm | 10.13"<br>257 mm | 18.4"<br>467 mm | 13.5"<br>342.9 mm  |
| H18-3-101-2  | 13"<br>330 mm  | 20"<br>508 mm   | 16"<br>406 mm | 8.4"<br>213 mm | 18.5"<br>470 mm | 18.5"<br>470 mm   | 32.1"<br>816 mm | 12.38"<br>314 mm | 23.3"<br>591 mm | 17.25"<br>438.2 mm |

## DISTRIBUTOR

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