WINDMILLS

Dempster Industries is no longer in business. Click here for the story.

FOR A LIFETIME OF STRONG RELIABLE SERVICE AT LOW COST PER YEAR

WHEEL SIZE (feet)

6
8
10

Dempster Annu-Oiled Windmills need only a slight breeze and oil once a year. With a bare minimum of attention, you have a reliable source of pumping power. The mechanical design of Dempster Windmills has been developed through 130 years of continuous windmill experience.

SELF-REGULATING PRINCIPALS

The Wheel and mainshaft are slightly offset from the centerline through the vane and the pump rod. A regulating spring between the frame and vane will hold the wheel in full open position until the wind velocity reaches a level where the force of the wind against the wheel overcomes this tension. The vane will remain true to the wind, but the wheel will move away from it. As the wind velocity increases the wheel will close nearer to parallel with the vane and at the same time slow down. It will not completely stop but its power will diminish to almost zero. As the wind velocity decreases, the wheel will move back toward full open position as allowed by the regulating spring.

The brake is provided only to completely stop the wheel when the mill is shut down. It is not applied by the action of the wind during the regulating function. It is only applied by pulling the lever at the bottom of the tower. Many windmills in up to half a century of service have not had their brake bands replaced, since there is very little wear. The mill will begin operating in only a slight breeze, if the cylinder is not oversized. Maximum power is achieved at about 30 MPH, regulating will begin after maximum power is reached.

WARRANTY

ON THE NEW DEMPSTER NO. 12 ANNU-OILED WINDMILL

Dempster warrants for one year against defects in materials and workmanship and will replace or repair at an authorized Dempster repair location, any and all such parts of the Dempster #12 Windmills provided:

1. Installation instructions which accompany the windmill are followed precisely.
2. Oil is changed annually using a 20 SAE non-Detergent Engine Oil.
3. The hood of the mill engine is kept secured and in proper position.

In the event these provisions are not carried out, any resultant damage is not covered by this warranty. This warranty is expressly in lieu of all other warranties expressed or implied, and shall not apply when the windmill has been subject to accident, negligence, alteration, abuse, misuse, war, riot, civil commotion or acts of God. Consequential damages, if any, are specifically excluded from this warranty.
Demand DEMPSTER for best performance

MACHINE-CUT EQUALIZING GEARS
work independently of each other on a steel bearing. Gears run in an oil bath. Machine cut gears and pinions give perfect bearing surface over full width of the cog—each gear carries its full part of the load.

PERFECT REGULATION
Annu-Oiled mills pump in the slightest breeze, are built to withstand winds of storm velocity. Turns easily with the wind, responds without jerking or racking.

OIL ONLY ONCE A YEAR
Once a year, drain out the oil, flush with kerosene or gasoline and refill with fresh Dempster Windmill Oil. A simple “drip and carriage” system keeps an internal parts bathed in a constant flow of oil.

WEATHERPROOF HOOD
Made of galvanized sheet steel, the hood fits snugly over working parts keeping out dust and moisture.

VANE WON’T SAG OR BUCKLE
Made of angle steel, completely galvanized and sturdily braced, the vane stem is built to last for years.

IMPROVED HEAD PUMP ROD AND SWIVEL
Adjustable to take up any wear. Lubricated by grease zerk which needs attention only twice a year.

WHEEL CAN’T COME LOOSE
Wheel spider is made with a split hub which clamps around the wheel shaft. A heavy steel heat-treated bolt clamps the spider securely to the shaft-making it difficult for the wheel to come loose.

TOOL CUT EQUALIZING GEARS
allows quick response. Ball races are semi-steel, specially hardened and finished smooth to permit balls to roll freely. Enough balls are used to withstand five times the load they carry.

BALL BEARING TURNTABLE

MAIN SHAFT ASSEMBLY is built for long lasting service. Tapered roller bearings absorb the thrust and wear of the shaft. Provides quicker, smoother pumping starts.

INTERNAL EXPANDING BRAKE combines best features of both the steel band brake and cast shoe brake. Has heavy cast shoe and special steel brake lining.

SCIENTIFICALLY DESIGNED FANS utilize the full power of the wind. Fans are made from galvanized steel and securely fastened to circles to keep proper curvature and position. They cannot spring out of shape. Thoroughly galvanized wheel is not affected by atmospheric conditions.
This tower is manufactured with strong materials and extra bracing to stand up to the strongest winds. The size of the angle iron used in the corner posts varies according to the size windmill to be used. The following specifications are recommended for best results:

6' and 8' Windmills: 2" x 2" x 1/8" Angle, Style B
10' Windmills: 2-1/2" X 2-1/2" X 1/8" Angle, Style B

Steel angle girts, extending horizontally from corner posts to corner posts, are provided every 5-1/2 feet on Style B towers. This close spacing assures greater strength. Bottom girts of wood to eliminate bending when stepped on prevents tower from being pulled in at the bottom. Dempster uses cable-type twisted wire cross braces that adjust themselves to expansion and contraction in hot and cold weather. They can be easily tightened at any time by an eccentric washer, and they will never slacken back. Style B towers have double sets of braces, or braces every 5-1/2 feet the full height of the tower.

Substantial anchor posts and plates, made of angle steel, provide strong anchorage. Posts and plates are galvanized and cannot rust. The wood platform of all Dempster towers insures safety and accessibility. It is securely fastened to the tower by steel angle supports. Towers are furnished with a complete ladder that is absolutely safe to climb.

All parts are galvanized by the “hot-dip” process to prevent rust. They are galvanized after punching and cutting to insure coverage of all exposed surfaces. All bolts are zinc plated.

**WOODEN GIRT** The bottom girt is made of wood because a steel girt becomes bent from the countless times it is stepped on and thus pulls the tower in at the bottom. The wood girt prevents such buckling. Steadies tower when erected on ground and raised to position. 2” x 2” or 2-1/2” x 2-1/2” angle steel. All girts are below the splice.

**ECCENTRIC WASHER** Wire braces are easily and quickly tightened by means of the eccentric washer on the upper end of each brace, and they never slacken back. By simply turning this washer, the brace is made as tight or as loose as desired.

**GIRTS EVERY FIVE AND ONE-HALF FEET** Heavy angle steel girts extend horizontally from corner post to corner post, every 5-1/2 feet, from the top of the tower to the bottom. Placing the girts so close together assures great strength.

**CONVENIENT PULLOUT** The pullout is arranged to provide the proper leverage which enables you to pull the mill out of the wind easily. It is a long wood lever attached to the corner post.

**ADJUSTABLE SWINGING PUMP ROD GUIDES** keep the wood pump rod in line with the pump. These guides are made from round galvanized steel, bolted to the wood pump rod and to the girts.

**ANCHOR POSTS** Substantial anchor posts and plates, made from angle steel, provide a strong anchorage. Each post has two angle plates which give ample support for anchoring the tower. Galvanized, the plates and posts cannot rust.

### Dimensions at Base Height, feet Dimensions at Base Outside to Outside Outside to Outside Approximate Shipping Weight, Pounds

<table>
<thead>
<tr>
<th>Height, feet</th>
<th>At Top End of Anchor Posts</th>
<th>Spread of Corner Posts</th>
<th>2-Inch</th>
<th>2-1/2-Inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>4’3-3/4”</td>
<td>4’4-3/4”</td>
<td>340</td>
<td>533</td>
</tr>
<tr>
<td>28</td>
<td>5’5”</td>
<td>5’6”</td>
<td>430</td>
<td>657</td>
</tr>
<tr>
<td>33</td>
<td>6’6-1/4”</td>
<td>6’7-1/4”</td>
<td>516</td>
<td>780</td>
</tr>
<tr>
<td>39</td>
<td>7’7-1/4”</td>
<td>7’8-3/8”</td>
<td>616</td>
<td>914</td>
</tr>
</tbody>
</table>
Delivery performance is based on 15 M.P.H. wind with 32 Strokes per Minute for 6’ & 8’ Mills-18-20 MPH wind with 26 Strokes per Minute for 10’ Mill. If the wind velocity is decreased, the pumping capacity will also decreased. For example: Less than 15 MPH - 12 MPH wind will produce approximately 80% delivery - 10 MPH wind, approximately 62%. Decrease for the 10’ Mill from 18 MPH will be in approximately the same proportion.

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>SIZE WHEEL</th>
<th>BACK GEARED</th>
<th>STROKE INCHES</th>
<th>WHEEL RPM*</th>
<th>NO. OF ARMS</th>
<th>NO. OF SEC.</th>
<th>NO. FANS</th>
<th>MAX STROKES PER MIN.</th>
<th>WT. LBS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12B</td>
<td>6' FT</td>
<td>4 to 1</td>
<td>5</td>
<td>128</td>
<td>5</td>
<td>5</td>
<td>15</td>
<td>32</td>
<td>312</td>
</tr>
<tr>
<td>12B</td>
<td>8’</td>
<td>3’1/3 to 1</td>
<td>5-1/2 &amp; 7-1/2</td>
<td>107</td>
<td>5</td>
<td>5</td>
<td>15</td>
<td>32</td>
<td>425</td>
</tr>
<tr>
<td>12B</td>
<td>10’</td>
<td>3 to 1</td>
<td>5-1/2 &amp; 7-1/2</td>
<td>78</td>
<td>8</td>
<td>8</td>
<td>24</td>
<td>26</td>
<td>582</td>
</tr>
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</table>

*15 MPH WIND

Contact: Jay's Water Well
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