• Vecoplan built their first machine in 1969
• Vecoplan built their first machine in 1969

• Vecoplan developed the first single-shaft vertical grinder in 1982
• Vecoplan built their first machine in 1969

• Vecoplan developed the first single-shaft vertical grinder in 1982

• Vecoplan currently sells over $125 million annually of single-shaft units worldwide.
  • $40 million annually in the USA
Vecoplan Carpet Installations
Complete carpet recycling plant by Vecoplan
Quantity of carpet recycled by Vecoplan
Quantity of carpet recycled by Vecoplan

150 Vecoplan / ReTech machines processing carpet
Quantity of carpet recycled by Vecoplan

150 Vecoplan / ReTech machines processing carpet
x 4000 average lbs/hr per machine
Quantity of carpet recycled by Vecoplan

150 Vecoplan / ReTech machines processing carpet
x 4000 average lbs/hr per machine
x 2000 average hours of operation per year
Quantity of carpet recycled by Vecoplan

150 Vecoplan / ReTech machines processing carpet
x 4000 average lbs/hr per machine
x 2000 average hours or operation per year

= 1.2 BILLION
pounds of carpet per year processed on Vecoplan / ReTech equipment
Primary ReTech Shredders Used for Carpet Recycling
• RG52 - 52” x 58” - 1500-3000 lbs/hr.
- RG52 - 52” x 58” - 1500-3000 lbs/hr.

- RG62 - 63” x 80” - 4000-6000 lbs/hr.
• RG52 - 52” x 58” - 1500-3000 lbs/hr.

• RG62 - 63” x 80” - 4000-6000 lbs/hr.

• RG70 - 70” x 80” - 8000-10,000 lbs/hr.
- RG52 - 52” x 58” - 1500-3000 lbs/hr.
- RG62 - 63” x 80” - 4000-6000 lbs/hr.
- RG70 - 70” x 80” - 8000-10,000 lbs/hr.
- RG78 - 78” x 98” - 10,000-12,000 lbs/hr.
• RG52 - 52” x 58” - 1500-3000 lbs/hr.
• RG62 - 63” x 80” - 4000-6000 lbs/hr.
• RG70 - 70” x 80” - 8000-10,000 lbs/hr.
• RG78 - 78” x 98” - 10,000-12,000 lbs/hr.
• RG98 - 98” x 98” - 16,000-18,000 lbs/hr.
Vecoplan / ReTech Innovations

Vecoplan

The Ultimate Shredding Machine

ReTech Rotary Grinders

Vecoplan
Rotating End Discs
Rotating End Discs

- Reduce heat generation
Rotating End Discs

- Reduce heat generation
- Reduce sidewall wear
Rotating End Discs

- Reduce heat generation
- Reduce bearing contamination
- Reduce sidewall wear
Rotating End Discs

- Reduce heat generation
- Reduce bearing contamination
- Reduce sidewall wear
- Reduce fines
The Director of the United States Patent and Trademark Office

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121, or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extensions.
Patented in January, 2005
• Patented in January, 2005

• Eliminates rotor wrapping
• Patented in January, 2005

• Eliminates rotor wrapping

• Eliminates screen blinding if a screen is used
• Patented in January, 2005
• Eliminates rotor wrapping
• Eliminates screen blinding if a screen is used
• Reduces cut size
• Patented in January, 2005
• Eliminates rotor wrapping
• Eliminates screen blinding if a screen is used
• Reduces cut size
• Increases fiber separation
• Patented in January, 2005

• Eliminates rotor wrapping

• Eliminates screen blinding if a screen is used

• Reduces cut size

• Increases fiber separation

• Lowers required horsepower
• Patented in January, 2005

• Eliminates rotor wrapping

• Eliminates screen blinding if a screen is used

• Reduces cut size

• Increases fiber separation

• Lowers required horsepower

• Lifetime warranty
100% torque over full range of speed

Torque Characteristics

- Torque of Vecoplan HiTorc
- Torque of conventional drive
Useable Speed Range of Vecoplan HiTorc

- Torque of Vecoplan HiTorc
- Torque of conventional drive

200% useable speed range

30 - 300 rpm speed range
• 100% torque over full range of speed
• 30 - 300 rpm speed range
• Start / stop immediately
- Significantly lower current draw

Current Draw and Efficiency of Vecoplan HiTorc

- 300% torque with approx. 300% FLA

The maximum current (and torque) can be limited according to rating of electrical service
Amp draw comparison - 100 HP drive

<table>
<thead>
<tr>
<th>Power Consumption Comparison</th>
<th>Standard RG52</th>
<th>RG52 w/HiTorc</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vecoplan Shredder Running Empty:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Up Amperage Load -</td>
<td>1,200 amps +</td>
<td>103 amps</td>
</tr>
<tr>
<td>Free Running Amperage Load -</td>
<td>50 amps +/-</td>
<td>9 amps</td>
</tr>
<tr>
<td><strong>Vecoplan Shredder Operating Under Load:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Up Amperage Load -</td>
<td>1,067 amps</td>
<td>158 amps</td>
</tr>
<tr>
<td>Highest Amperage Spike (Peak Demand) -</td>
<td>994 amps</td>
<td>264 amps</td>
</tr>
</tbody>
</table>
- Power savings comparison - 200 HP drive

**ENERGY SAVINGS COMPARISON**

Actual *MONTHLY* Operating Costs for an existing Vecoplan customer, as estimated by their local power company:

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard RG70</th>
<th>RG70 w/HiTorc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Charge</td>
<td>$16.24</td>
<td>$16.24</td>
</tr>
<tr>
<td>Demand Charge</td>
<td>$369.39</td>
<td>$37.00</td>
</tr>
<tr>
<td>Energy Charge</td>
<td>$1,950.36</td>
<td>$246.79</td>
</tr>
<tr>
<td>Fuel and Purchased Power</td>
<td>$337.74</td>
<td>$61.24</td>
</tr>
<tr>
<td>Muni Franchise Fee</td>
<td>$139.03</td>
<td>$19.47</td>
</tr>
<tr>
<td><strong>Total Meter Charges</strong></td>
<td><strong>$2,812.76</strong></td>
<td><strong>$380.74</strong></td>
</tr>
<tr>
<td>State Sales Tax</td>
<td>$168.76</td>
<td>$22.84</td>
</tr>
<tr>
<td>County Sales Tax</td>
<td>$28.13</td>
<td>$3.80</td>
</tr>
<tr>
<td>City Sales Tax</td>
<td>$14.06</td>
<td>$1.90</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$3,023.71</strong></td>
<td><strong>$409.28</strong></td>
</tr>
</tbody>
</table>
• 100% torque over full range of speed
• 30 - 300 rpm speed range
• Start / stop immediately
• Significantly lower current draw
• Low maintenance
HiTorc™

- 100% torque over full range of speed
- 30 - 300 rpm speed range
- Start / stop immediately
- Significantly lower current draw
- Low maintenance
- Low noise
• 100% torque over full range of speed
• 30 - 300 rpm speed range
• Start / stop immediately
• Significantly lower current draw
• Low maintenance
• Low noise
• 5-year warranty
Optional Equipment and System Services
• Vecoplan complete system integration
• System engineering and manufacturing
• Dust control and fines separation systems
• Airspring bedknife for self clearing
• Water-cooled rotor and/or cutting chamber
• Different size and metal compositions for cutters