TAKRAF APRON FEEDER
Optimal Solutions for Mining, Material Handling and Processing
TAKRAF is a key supplier of equipment and systems for open pit mining and bulk handling, having provided hundreds of complete systems, as well as individual machines, to clients all over the world. Based upon more than a century of experience and know-how, the product range stretches from overburden removal, raw material extraction, conveying, processing, comminution, homogenizing, blending and storage to onward transport or shipment.

TAKRAF provides the full range of services, from project studies, planning, engineering and design to fabrication, supply, erection and commissioning, technical assistance, service and after-sales service for plants, systems and equipment. Its equipment has proved robust and reliable in adverse geological conditions, in extreme climates with temperatures down to minus 45°C, in dust, wind or extreme humidity, as well as in seismic zones and altitudes of up to 5,000 m above sea level or in underground applications.

TAKRAF has committed to both environmental and social sustainability in their business interactions and has adopted a Zero harm approach to safety under the SAFETY FIRST promise of Tenova.
**TAKRAF APRON FEEDERS**

TAKRAF Apron Feeders are designed for demanding material handling work in mineral, ore, coal and aggregate mining, as well as processing operations, combining robust, heavy-duty frames with standard chains and rugged pans to provide extremely long service life.

**APPLICATIONS**

- Feed and discharge of big lump sizes, hard material, abrasive material, hot material or a combination thereof
- Can be installed below dump hoppers, material storage or transfer facilities from small to highest capacities
- For hoppers and bins with closed or open fronts as well as for material discharge from stockpiles
- Feeder slope may be inclined up to 28 degrees
- Material discharge may be by mass flow or funnel flow on to the feeder deck
- Functional design of the feed hopper can be provided

**STANDARD SIZES & SPECIFICATIONS**

**TABLE OF OVERALL DIMENSIONS IN MM**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>WIDTH</th>
<th>H</th>
<th>C</th>
<th>R</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>D4</td>
<td>*</td>
<td>1,130</td>
<td>638</td>
<td>492</td>
<td>To suit</td>
</tr>
<tr>
<td>D6</td>
<td>*</td>
<td>1,345</td>
<td>773</td>
<td>572</td>
<td>application</td>
</tr>
<tr>
<td>D7</td>
<td>*</td>
<td>1,520</td>
<td>900</td>
<td>620</td>
<td></td>
</tr>
<tr>
<td>D9</td>
<td>*</td>
<td>1,786</td>
<td>1,010</td>
<td>776</td>
<td></td>
</tr>
</tbody>
</table>

* STANDARD WIDTHS (mm): 1,000 / 1,250 / 1,530 / 1,830 / 2,100 / 2,400
The apron feeders are available with frequency controlled electro mechanical drive or hydraulic direct drive.

- Robust construction using high strength materials
- Standard bearings and plummer blocks on head and tail shafts
- Standard crawler under-carriage parts
- Lifetime lubrication on rollers
- Range of standard widths available in different lengths, as required
- Flight overlap minimizes spillage
- Sprocket segments interchangeable and easily replaceable
- Easy chain tensioning at tail shaft
- Compact hydraulic or electromechanical drives
- Drives can be fixed or variable speed; single or twin drives
- Heavy duty ribbed pans are standard

- Can be transported and installed as fully assembled and tested unit
- Moving parts available worldwide, off the shelf
- Variable speed drives and short chain pitch provide accurate and infinitely variable feed rates
- High impact carrying capability due to closely spaced rollers and impact rail
- Manual or electronic control – locally or remote – ensuring flexibility
- Height saving benefits due to feeder incline
- Minimal scheduled maintenance requirements
- Discharge also of ‘sticky’ materials through application of bulk solids flow design
- Long service life
HEAVY DUTY APRON FEEDERS FOR SPECIAL APPLICATIONS

Besides the standardized apron feeders TAKRAF supplies heavy duty apron feeders designed to meet special requirements resulting from conditions given by material, capacity and geometry. For capacities requiring chains above D11, please contact TAKRAF GmbH.

Following is a selection of TAKRAF apron feeders supplied:

<table>
<thead>
<tr>
<th>Material</th>
<th>ROM. Phosphate</th>
<th>ROM. Phosphate</th>
<th>ROM. Overburden (hard rock)</th>
<th>ROM. Overburden (hard rock)</th>
<th>Primary crushed Copper Ore</th>
<th>ROM Iron Ore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>(Width x Centers - Chain)</td>
<td>PB 2600 x 10600 - D8</td>
<td>PB 2600 x 6600 - D8</td>
<td>PB 2400 x 14100 - D9</td>
<td>PB 3100 x 28000 - D11</td>
<td>PB 2600 x 10100 - D9</td>
</tr>
<tr>
<td>Capacity [t/h]</td>
<td>1500</td>
<td>1500</td>
<td>4250</td>
<td>12000</td>
<td>7250</td>
<td>6850</td>
</tr>
<tr>
<td>Conveying speed, nominal [m/min]</td>
<td>6 - 24</td>
<td>20.8</td>
<td>9.4 - 23.6</td>
<td>15.6 – 21.3</td>
<td>179 – 21.5</td>
<td>11.7 – 20.7</td>
</tr>
<tr>
<td>Installed power [kW]</td>
<td>2 x 120</td>
<td>22</td>
<td>2 x 315</td>
<td>2 x 710</td>
<td>2 x 200</td>
<td>2 x 200</td>
</tr>
</tbody>
</table>

The apron feeders are available in outboard design with the chains outside the area in between the skirt boards preventing chains and rollers from falling spillage material and inboard design providing shorter and lighter pans. For outboard designs, return rollers are mounted at the pans or mounted underneath the pans as for inboard chains. If mounted at the pans, the rollers move on a rail. Pans are heavily reinforced. As appropriate, greased slide rails are mounted in full length.

Drive shafts are in one piece design. For large bearings, heavy plummer blocks are fabricated by TAKRAF in its own workshop.

Chain tension is applied by screw type tensioning or with a tension frame (idler wheels mounted in it), hydraulically supported, mechanically secured. Chain force monitoring is available.
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