For forging machinery and manufacturing companies, NKH HAMMERS is a trusted name. Here are some of the global presence locations:

- AFRICA
- CHINA
- DUBAI
- TURKEY
- BANGLADESH
- SRI LANKA
- METAL FORMING PEOPLE SINCE 1960

Visit our website www.nkh.co.in for more information.

Forging Machinery Manufacturing Co.
(Old Niranjan Singh Karter Singh Unit)

ADMN. OFF/ WORKS:
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Industrial Area-A Extn.,
Near Cheema Chowk,
Ludhiana - 141 003 (Punjab) India.

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Fax: +91-161-5011754

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nkhhammer@yahoo.co.in
Niranjan Singh Kartar Singh Hammers (N.K.H.), established in 1960 by S. Kartar Singh (1926-1993), with the vision of introducing the forging hammers in India, is known as God Father of Forging Industry. The Company is now headed by his son S. Kulwant Singh and Grandsons Mr. Jasmer Singh and Mr. Zailinder Singh.

NKH Hammers is the first Indian Company to Introduce Forging Machines in India and the feather more than 90% of successful installations in the forging Industry running across India as well as Abroad. Even in 21st Century, all other colorful accomplishments that of modern world of the media presents us with every day, machine engineering and plant construction which is dependent on forged components by Forging Machines is and will remain one of the most important pillars of our present-day prosperity. Without high-strength, forged metal components, the economic and technical development that we have experienced over the last seventy years would not have been possible. Electricity and mobility in the form of motorized vehicles of all kinds are just two of the multifarious fields of application for modern Forged Components.

**Mile Stones :**

- Year 1960 - Manufacturing of Belt Drop Hammers Started under M/s Forging Machinery Manufacturing Co. and First one in INDIA to Manufacture Belt Drop Hammers.
- Year 1972 - First Rolling Mill commenced.
- Year 1982 - Installation of Arc Melting Furnaces for Steel Plant.
- Year 1986 - Installation of Second Rolling Mill.
- Year 1991 - Installation of Steel induction furnace (Kohara), for special steel casting, Grey Iron casting, casting for railways, B.H.E.L, Defence etc.
- Year 1992 - Started Manufacturing Billet shearing Machines under the umbrella of M/s Forging Machinery Manufacturing Co.
- Year 2000 - Founded Jaiassons Engineering Pvt. Ltd. which is a Heavy Castings Division (Grey Iron Capacity up to 80,000 Kg Single Piece).
- Year 2003 - NKH Cast & Forge. (Forging Capacity 200 gm. to 150 Kg.)

**Quality Certifications :**

- ISO 9001:2008 by TUV Sud Certification in Order to enhance our system and process, create value, relevance to our Products, Services, People and our assets.
Infrastructure

- **CNC Machining**
  - Multi AXIS CNC Machines
  - VMC Machines
  - Turning CNC Machines

- **Manufacturing / Casting**
  - Head Gears
  - Raw Casting of Columns
  - Raw Casting of Anvil Block

- **Testing Facility**
  - Ultrasonic Flow Detector
  - Wet Analysis Laboratory
  - Measuring Instruments

- **Assembly Shop**
  - Hammer’s Ready for Inspection
  - Fitment of Parts of Hammers
  - Complete Head Assembly
Drop Forging Hammer

Capacity 500 Kgs to 10000 Kgs
Introduction

The NKH Drop Hammer is a rationalized version of the ‘Self Contained’ designs. The NKH Hammer has a reputation for versatility and economical operation by virtue of its long stroke and high blow energy. The NKH Hammer since its introduction 50 years ago has established itself for its simplicity in headgear design, economic production of close tolerance forging and low maintenance costs.

The Headgear is a rigid structure, flexibly mounted on a substantial hammer frame, and is eminently suitable for the modernization of existing plant when obsolete or worn out headgear need to be replaced. Heavy standards, with large bedding areas at the base, are spigot mounted on the anvil block. The seating and locating surfaces are protected by reinforced resilient pads. Easily adjustable compound wedges are used to position the standards on the anvil block for correct slide clearance.

Specifications

NKH Self Contained Friction Drop Hammer is being manufactured in different capacities. NKH Friction Drop Hammers have been designed and developed with Indian know-how and material. Prospective customers are welcome to conduct trials and inspect our range of NKH Hammers at our works in Ludhiana.

<table>
<thead>
<tr>
<th>Size of Hammers (Wt. of Top including)</th>
<th>Kgs. Lbs.</th>
<th>500</th>
<th>1120</th>
<th>750</th>
<th>1653</th>
<th>1000</th>
<th>2204</th>
<th>1500</th>
<th>3306</th>
<th>2000</th>
<th>4408</th>
<th>2500</th>
<th>5510</th>
<th>3000</th>
<th>6212</th>
<th>4000</th>
<th>8816</th>
<th>5000</th>
<th>11020</th>
<th>10000</th>
<th>22222</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Space between Slices</td>
<td>mm. in.</td>
<td>431</td>
<td>17</td>
<td>500</td>
<td>19.6</td>
<td>574</td>
<td>22.6</td>
<td>635</td>
<td>25</td>
<td>722</td>
<td>28.4</td>
<td>773</td>
<td>30.6</td>
<td>755</td>
<td>30.5</td>
<td>810</td>
<td>31.9</td>
<td>863</td>
<td>34</td>
<td>1150</td>
<td>42.3</td>
</tr>
<tr>
<td>2. Maximum Stroke</td>
<td>mm. Fl. in.</td>
<td>1650</td>
<td>5’6”</td>
<td>1700</td>
<td>5’8”</td>
<td>1750</td>
<td>5’10”</td>
<td>1800</td>
<td>6’0”</td>
<td>1850</td>
<td>6’2”</td>
<td>2025</td>
<td>6’9”</td>
<td>2220</td>
<td>7’4”</td>
<td>2200</td>
<td>7’8”</td>
<td>2300</td>
<td>7’10”</td>
<td>2400</td>
<td>8’0”</td>
</tr>
<tr>
<td>3. Tup (Front to Back)</td>
<td>mm. in.</td>
<td>430</td>
<td>17</td>
<td>450</td>
<td>18</td>
<td>480</td>
<td>19</td>
<td>540</td>
<td>21.3</td>
<td>600</td>
<td>23.3</td>
<td>670</td>
<td>26.4</td>
<td>690</td>
<td>27.2</td>
<td>810</td>
<td>32</td>
<td>850</td>
<td>33.5</td>
<td>1170</td>
<td>46</td>
</tr>
<tr>
<td>4. Total Height of Machine</td>
<td>mm. Fl. in.</td>
<td>5260</td>
<td>17.3</td>
<td>5740</td>
<td>18.10</td>
<td>6000</td>
<td>19.8</td>
<td>6450</td>
<td>21.2</td>
<td>6790</td>
<td>23.3</td>
<td>6865</td>
<td>22.6</td>
<td>7390</td>
<td>24.3</td>
<td>8839</td>
<td>29</td>
<td>9754</td>
<td>32.7</td>
<td>11440</td>
<td>37.2</td>
</tr>
<tr>
<td>5. Max. Wt. of the top die</td>
<td>Kgs. Lbs.</td>
<td>150</td>
<td>330</td>
<td>225</td>
<td>500</td>
<td>300</td>
<td>660</td>
<td>450</td>
<td>992</td>
<td>600</td>
<td>1322</td>
<td>750</td>
<td>1653</td>
<td>750</td>
<td>1984</td>
<td>1200</td>
<td>2645</td>
<td>1500</td>
<td>3306</td>
<td>3900</td>
<td>8764</td>
</tr>
<tr>
<td>6. Max. No. of Blow per minute</td>
<td>Short Stroke</td>
<td>135</td>
<td>90</td>
<td>120</td>
<td>80</td>
<td>70</td>
<td>75</td>
<td>75</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>35</td>
<td>55</td>
<td>30</td>
<td>45</td>
<td>22</td>
<td>40</td>
<td>15</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Approximate Gross Weight</td>
<td>M. Tons</td>
<td>20-22</td>
<td>27</td>
<td>32</td>
<td>50</td>
<td>62</td>
<td>72</td>
<td>82</td>
<td>82</td>
<td>102</td>
<td>122</td>
<td>300</td>
<td>300</td>
<td>500</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Electric Motor</td>
<td>H.P.</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>125</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>300</td>
<td>500</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Specifications are subject to change without Prior Notice.
- All Data is proposal and can be adjusted according to Customer’s Requirements.
Cast steel columns duly-annealed and machined are very stiff and robust in construction to ensure longer stability. In all cases the standards are more massive than previous designs and joint areas have been increased. Front to back location of standards to anvil is achieved by large spigots on the standards and corresponding recesses in anvil block underside of each foot which fits into a machined recess in the anvil block. The columns are locked with the help of tapered wedges of alloy steel to ensure firm alignment of columns which helps in accurate guiding of tup (made out of EN-9 cast steel. The clearance between the tup and guide ways attached to columns is maintained with the help of tapered wedge which brings the columns inward and drawback bolt provided pushes the columns outwards. Synthetic rubber mat is reinforced to protect the vertical abutment faces and horizontal joints against impact erosion, on anvil block on which the columns rest. It damps the induced shock vibrations which increase the life of the tup and also ensures smooth working of the machine for longer period.

The top of each standard is drilled for the standard to Headgear bolts and has machined circular recesses to accommodate the resilient mounts for the Headgear.

Two/Four substantial bolts secure each standard to the anvil block the are inclined inwards at the top so that, When tightened, they holed standard abutment faces hard against the compound wedges.

A circular spring reinforced with washers at the top of each bolt maintains bolt tightness and reduce impacting of the bearing areas on the standards an anvil block.

**Slides**

The Separated Slides which are in forged Steel, are accurately machined to ensure positive location in the pockets in the standards and can be reversed end to end when wear develops after long service. High tensile bolts secure each slide and large resilient washers, located in the back of the standards, protect against slide looseness and bolt fracture. The guiding surfaces of the slides are semi-radially disposed relative to the center of the tup for close and accurate alignment. The material of the slides is EN-9 forging fully with heat treatment process for resistance to wear and pick-up, thus considerably prolonging the life of the slide and tup.
Head Assembly

Heavy duty headgear Structure is a substantial rolled steel fabrication, fully stress relieved and accurately machined on all bearing surfaces. The heavy duty motors are of the squirrel cage totally enclosed type and are easily adjustment for correct tensioning of the vee belts.

The AC Electric motor via flywheel and reduction gears to the lifter-shaft. The normal method of starting is by a push-button operated direct-on type started. Automatic Star Delta or auto transformer starting can be supplied if required.

Friction lifting system is fitted to lifter shaft which runs on double ball bearings and one central phosphorus bronze bearing which also serves as support to lifter shaft. The friction lifter consists of constantly rotating drum and break lined steel band. This band is anchored at one end to stud in lifter drum and other end is carried by camshaft running through lifter drum which is actuated by lever. The lever is operated with the help of pulling cord tied to lever at one end goes to operating point by passing through capstan bush attached to lifter shaft. When we pull the cord it tightens on to the rotating capstan bush which operate the lever resulting in tightening of brake around the brake drum with the help of camshaft. At this stage, lifter drum is rotated and tup is lifted with the help of nylon belt provided. On release of cord, the spring loaded arrangement help free fall of tup by disengaging friction band immediately from the friction drum. The spring loaded buffer work as a stopper for lifting drum is its rest position. Positive water cooling arrangement is provided to the friction drum to prevent excessive heating.

Anvil Block

It is made of grey cast iron weighting approx. 20 times of nominal capacity of the ram. It is machined on both top & bottom faces to hold die holder firmly and maintain position of the columns. The die holder fixed in the anvil block is forging from high grade alloy steel all over hardened and it is positioned properly with the help of alloy steel tapered wedge.