C88K PLC FULLY HYDRAULIC DIE FORGING HAMMER

It uses one-piece U-frame casting steel hammer body, with max. striking energy from 16kJ to 160kJ. That frame is wide application and standard one. Hammer body is cast as one piece to avoid columns and anvil connecting, reduce separated hammer body contacting surface wear, improve body strength, and make this hammer afford off center forging force.

Its guiding is using the steel X-shape guide rails fixed in the hammer body inner face by bolts, with three inserted locating face to avoid bolts receive force. Imported locking washer is used to avoid bolts lose. Extending line of contacting surface of guide rails and ram crosses on the ram center, which cannot effect guide clearance due to heating, and clearance between ram and guide rails can be adjusted to be small to assure die matching. And this guide rails lubrication is automatic and once forging is stop, lubrication will be stop.

Its striking system is with big ram structure, which can make sure striking energy when striking speed is down. And longer ram guiding can improve hammer working accuracy.

Its control system can make sure striking energy controlled and program striking realized, avoid vibration and noise arising from surplus energy. Program automatic control system can control each striking energy and steps according to requirement, which make striking system vibration and noise reduce more, lower requirement for operator, get stable forging accuracy, improve hammer running reliability and die life. Striking program is easy
to input, no need skilled computer engineer, even semi-skilled worker is OK. There is malfunction display window on this control system. Once problem, it will be easy and quick to find malfunction reason through this window, and then deal with it at once to short maintenance time.

(1) Main features:
1.1 Program control, numerical input, simple operate;
1.2 High integrated hydraulic control system, accumulator fixed directly on main valve block without any pipe connecting, improve hydraulic system efficiency and easy for maintenance;
1.3 Advanced taper valve control, fast response, good sealing and not easy to inner leakage;
1.4 One-piece casting steel U-frame, radial wide guide rails, to get stable and high ram guiding accuracy;
1.5 Touch screen man-machine interface and automatic malfunction diagnosis and alarm, easy for machine operation and maintenance;
1.6 Digitized and exacted controlling striking energy, avoid surplus energy harm during striking;
1.7 Three inserted locating faces to avoid bolts receive force and imported locking washer is used to avoid bolts lose.
1.8 Fully hydraulic driving system, avoid oil and air mixing;
1.9 Swaying combine oil cylinder and thin piston rod flexible design;
1.10 High and low pressure double anti-leakage design;
1.11 Slow up and down in the case of releasing hydraulic system pressure to make die changing safety;
1.12 Ram buffer is inner hydraulic buffer, to make sure safety and effective;
1.13 Special designed die automatic lubrication, blank convey system, ejector and scale removing system are for customer to choose. They can be linked to hammer through program to realize die lubrication locating, timing, quantifying control, to improve its productivity and reduce labor intensity.
1.14 Remote monitor system can save maintenance engineer to user’s workshop time and cost. It not only save large labor and resource cost, but also supply fast service to customer to reduce loss arising from hammer stopping.

(2) Advantages:
2.1 High efficiency
The special fully hydraulic power driving technology makes the hydraulic hammer obtain the huge kinetic energy in the extremely short stroke, that is, getting fast forging, high-frequency continuous forging in short stroke. And the additional die automatic lubrication system, ejector system, blank convey system and remote monitoring system linked to forging hammer can reduce more operator labor intensity and improve working
efficiency greatly.

2.2 Energy-saving
Its driving efficiency reaches 65%, over 30 times than other steam hammer. Besides that, its energy saving is also to striking energy precise control.

2.3 high accuracy
The one-piece high rigid U-frame body and the radial wide guide rail make this hammer working precision keep well. High striking energy can be controlled, to avoid surplus striking energy to extend much die life and hammer reliability.

2.4 Low noise
The forging hammer noise is inevitable, but may be reduced. If the forging hammer striking energy is enough to form the forging without more striking energy, giving full striking energy but no surplus, the situation will be different.

The traditional forging hammer striking energy is not adjustable. Usually worker uses biggest energy, which is not need. The operator also is familiar with several strikes, which is actually surplus.

It can control the striking energy precisely, especial for high striking energy. Each striking energy may be adjustable according to the design procedure .In such way, surplus striking energy can be controlled, thus the noise also will be reduced.

2.5 Reliable quality
If the forging hammer is operates by man, no matter how skilled worker, it also is unable to keep 100% consistency, especially when shifting, it is difficult to obtain the consistent striking energy and time for the same kind of forging. This hammer use the electronic procedure control, no matter who steps on the foot switch, striking is consistent. The procedure to some particular part progress can be stored. Later if forging the same components, you will only assign out this components procedure and the forging will be done.

2.6 Low running cost
The energy saving not only refers to the high hammer transmission efficiency, but also includes the energy saving benefit from the accurate control. Unnecessary striking energy wastes energy and affects the equipment and the die life, because they are absorbing surplus energy.

High integrated, compact structure hydraulic driving system can reduce hydraulic leakage and hydraulic oil consumption. And in normal condition, it no need to add high pressure
nitrogen.

2.7 Wide application
A person can explain how large forging can be forged by one press. But to hammer, it is not easy to define.

The high forging speed and short die contacting time can be good for forgings deforming and extend die life. Such hammer is used to forge thin board, complex forging with different weight, which can manifest its performance and economical superiority fully.

2.8 Ease maintenance and operation
It is designed compact and using standard hydraulic priority valve to realize charging oil, discharging oil, adjusting and striking and so on.

It supervises the hydraulic oil cleanliness, temperature and pressure through the sensor. Once the phenomenon is not conformed to system condition, it can auto-alarm, also can realizes the breakdown automatic diagnosis and protection itself to stop the hammer. At the same time, it will supervise the safe ancillary facilities as far as possible. If it does not conform to the request condition, it cannot realize the main engine start.

For the better and quicker service and maintenance, it equips with the Chinese and English normal problems display window. Once there appears exceptionally, through the window we can quickly find the reason to solve rapidly and reduce maintenance time.

New designed remote monitor system can save maintenance engineer to user’s workshop time and cost. It not only save large labor and resource cost, but also supply fast service to customer to reduce loss arising from hammer stopping.

(3) Main parameter:

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<tr>
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<td>KJ</td>
<td>16</td>
<td>25</td>
<td>31.5</td>
<td>50</td>
<td>63</td>
<td>80</td>
<td>100</td>
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<td>Max. Striking frequency</td>
<td>Min⁻¹</td>
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<td>90</td>
<td>90</td>
<td>80</td>
<td>80</td>
<td>75</td>
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<tr>
<td>Ram weight</td>
<td>Kg</td>
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<td>1800</td>
<td>2250</td>
<td>3500</td>
<td>4350</td>
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<td>5000</td>
<td>6300</td>
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<td>Main motor power</td>
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<td>55</td>
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(Note: Reserve the right to change the parameters without prior notice.)