

as a shell closed on one side but as a housing ring which is constructed on both sides from a cover consisting of the cover ring 5 and the cover disk 6 screwed into the latter. To fasten the covers to the housing 1', one of the cover rings has tapped holes, the second cover ring has countersunk holes for countersunk heads, and the housing 1' has through-holes. The two covers are thus connected to one another and to the housing 1' by means of through-bolts.

[0032] During operation, cooling liquid is therefore introduced through the connection 10 into the chamber 4 and is distributed there in the form of conical jets outward through the nozzle bores 20. The liquid lubricant flows through the connection 11 into the annular passage 15 and flows outward from there through the spray nozzles 17. The atomizing air coming from the inner annular passage 18 ensures that the lubricant fed via the stepped bore in front of the spray nozzles 17 is split into very fine droplets.

1. A device for lubricating and cooling molds, in particular forging dies and tools in metal forming, having flow passages for feeding a lubricant and a coolant and having nozzles for spraying the lubricant and the coolant, wherein the flow passages for lubricant and the flow passages for coolant are separate from one another, and wherein nozzles designed for spraying the lubricant are assigned to the lubricant flow passages, and nozzles designed for spraying the coolant are assigned to the coolant flow passages.

2. The device as claimed in claim 1, wherein the flow passages for the lubricant and the flow passages for the coolant are laid in a common housing which can be attached to guide arms which can be moved into the open molds or dies.

3. The device as claimed in claim 2, wherein the housing is provided with a central chamber and with at least one cover which covers the chamber, and wherein flow passages, in particular annular passages, are provided in the housing, these annular passages being subjected separately from the chamber to the admission of at least one of the media required for the spraying operation.

4. The device as claimed in claim 3, wherein the flow passages are annular passages which are fed via external feed passages with one of the media required for the spraying operation.

5. The device as claimed in claim 4, wherein the feed passages open radially into the annular passages.

6. The device as claimed in claim 2, wherein the housing is provided with a central chamber, and the central chamber is provided with a feed passage, opening out eccentrically and in particular tangentially, for the coolant and is closed off by a circular cover disk which is provided with a plurality of coolant bores arranged so as to be distributed uniformly over a diameter of the cover disk.

7. The device as claimed in claim 6, wherein the cover disk is screwed into a cover ring and is closed off toward the central chamber by a flat gasket ring.

8. The device as claimed in claim 6, wherein a swirl insert is arranged upstream of each coolant bore.

9. The device as claimed in claim 8, wherein each swirl insert is screwed into a tapped hole, these tapped holes being provided on the side of the coolant nozzle bores which points toward the central chamber.

10. The device as claimed in claim 7, wherein annular passages are provided as encircling grooves in that region of the housing which surrounds the chamber, these grooves being closed off by the cover ring which encloses the cover disk.

11. The device as claimed in claim 10, wherein the outer annular passage is connected to a feed passage for lubricant, and the inner annular passage is connected to a feed passage for compressed air.

12. The device as claimed in claim 10, wherein lubricant spray nozzles, in particular in the form of minimum lubrication nozzles, are provided on the cover ring, these lubricant spray nozzles being arranged so as to be distributed uniformly over a diameter and being connected to respective branch passages for the compressed-air feed, which lead to the inner annular passage.

13. The device as claimed in claim 12, wherein the branch passages are designed as transverse bores which open into the core hole of the fastening thread for the lubricant spray nozzle.

14. The device as claimed in claim 11, wherein the feed passages for coolant, lubricant and compressed air are laid in a common housing and at least sections thereof are laid so as to run parallel to one another in a connection piece serving as guide arm.

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