

Data Sheet

HKS 500



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IKA high performance HKD and HKS horizontal kneading machines are twin-bowl kneading machines with horizontally arranged kneading blades, able to process mixtures with very high viscosities. The distinctive feature of these kneading machines lies in their kneading elements, which enable them to be adapted to a broad spectrum of applications: from the production of low viscosity adhesives (hot melts) to extremely high viscosity rubber mixtures.

The excellent kneading and dispersion achieved with the high performance HKD kneading machine is based on the principle of intermeshing DUPLEX kneading blades, which have a reciprocal stripping action. The speed ratio of the kneading blades is 2:1. This creates an alternating movement of the blade surfaces towards and away from one another. This produces high pressure and shear forces and thus a high level of friction in the product, resulting in intensive mixing and fine dispersion of the product.

The HKS is a kneading machine with horizontally arranged, Z-shaped kneading blades. In the case of the HKS, the distance between the shafts of the kneading blades is greater than the external diameter of the blades. There is, therefore, no reciprocal stripping of the kneading blades. The kneading blades rotate in opposite directions, resulting in continuous movement of the product from the side walls of the kneading bowl to the center of the kneading bowl or the reverse, depending on the direction of rotation. The speed ratio of the kneading blades is 5:3. The different rotation speeds of the kneading blades rotating in opposite directions produce high pressure forces and thus result in intensive mixing.

All machines in the HKS and HKD series have double-jacketed bowls for heating/cooling.

The product is discharged by tipping the kneading bowl or by means of a discharge screw. The machines in both series are driven directly by a geared motor. A frequency converter allows infinitely variable speed adjustment.

A particular feature of IKA horizontal kneading machines is the option to remove the complete side wall of the kneading bowl either hydraulically or manually on two turns of the bowl. This enables easy cleaning of the kneading blades and discharge screw in the case of a product change.

Options:

- Removable side wall
- Removable kneading bowl (special option for the version with the discharge screw)

Technical Data	
Total volume	500 l
Useful volume	350 l
Min. useful volume	125 l
Drive power	15 kW
Speed of the fast blade	2 - 20 rpm
Speed of the slow blade	1.2 - 12 rpm
Kneading bowl heatable/coolable	yes
Vacuum operation possible	yes
Discharge screw	optional
Ident. No.	000HKS500ST

- Discharge module, comprising a discharge screw and discharge pipe
- Vacuum system
- Temperature control system
- Sensors for temperature measurement in the product and in the double jacket
- Wear-resistant coatings
- Upstream and downstream interface systems, e.g. dosage, molding and granulation systems

Advantages of horizontal kneading machines at a glance:

- Intensive kneading and dispersion of high viscosity products
- Shorter processing times with improved product quality
- Minimum processing capacity of 25% of the total container volume
- Infinitely variable speed adjustment via a frequency converter
- Automation possible in accordance with customer requirements
- All metal components which come into contact with the product are made from AISI 316L / 316Ti stainless steel
- Seals made from high quality materials

Applications for horizontal kneading machines:

- Technical ceramics
- Hot-melt adhesives
- Manufacture of abrasives
- Graphite compounds
- Sealing compounds
- Lubricants
- Hard metal compounds

Technical data of IKA horizontal kneading machines: