INNOVATIVE FLUID FILM BEARINGS

PIK DIAD

Innovative technologies and Advanced materials in fluid film bearing

PIK Diad Ltd. www.pik-diad.ru

Rotating machinery fluid film bearings

We design and manufacture fluid film bearings for the most demanding high-performing turbo-machinery, such as turbines, generators, high-energy pumps, motors, compressors, gearboxes.

We manufacture wide range of fluid film hydrodynamic bearings: thrust(axial) bearings, journal(radial) bearings and combined thrust-journal bearing assemblies. Our bearing design include fixed profile bearings, tilting pads for both journal and thrust bearings, plane bearings. We incorporate wide verity of options in bearing design, for instance: direct or flooded lubrications; equalised or non-equalised thrust bearings, instrumentations and so on, to cover customer's demands. We collaborate with our customers to optimise bearing performance and provide customised solution to fulfil customer needs and achieve equipment's peak performance.

Our bearing slip surface design include traditional white metal(babbit) and engineered polymers based on PEEK (polyether ether ketone). White metal is applied to the bearing surface using plasma flame spraying method, resulting in outstanding adhesion characteristics, lower friction coefficient comparing with conventional methods and eliminates possibility of cavity or foreign inclusions.

We are using bearing grade proprietary composite materials for matting surfaces. Our composite materials are based on engineered PEEK reinforced with carbon fibres and other materials. Use of engineered polymer based materials allows to increase load up to 10 MPa and exceptional operation temperatures beyond 250 C, though maintaining incredible 0.04-0.02 coefficient of friction. PEEK polymer based bearings are excellent solution for high load application, aggressive environments, thin film operation and high temperature applications. Polymer based bearing can operate with local oil starvation for short time, up to a few minutes without any consequences. Longer operation without lubricant do not harm rotor surface. Additionally, polymer bearing will lower bearing operational temperature up to 10-20 deg C comparing with conventional white metal bearings. And up to 30-50% vibration reduction due to polymer's dampening properties and increases in bearing service life at least 1.5 times.

Today, our bearings could be found on more than 50 sites in Russia and Belarus. Bearings have been installed in high-load rotating equipment, from Russian, American, Canadian and European manufacturer. Our bearings manufactured to the highest world standards and have proven as high level reliability and availability equipment.

Our bearings are installed in oil and gas customers, such as Gasprom, Novatek, Transneft, petrochemical customers EuroChem, new equipment manufacturers: Gydromash, HMS Group, NPO Iskra and other customers. We can design and supply bearing for new equipment, or as replacement part, or retrofit for machine in operation.

Would you be interested in getting a quote, please fill in inquiry form, in attachment. See below our contacts in case of addition information is requited.

sales@pik-diad.ru - for getting quote;
info@pik-diad.ru - for technical questions.

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