



# With precision to the stars



Chiles Atacama-desert is the world's driest region – and the location of the ESO Paranal observatory. From here heavenly bodies that are located far outside our solar system can be examined. IBC Wälzlager GmbH, from central Hessen in Germany, offers the precision that makes it possible to take pictures with an angle resolution of thousandth arc seconds.



The Very Large Telescope (VLT) is the heart of the system run by the ESO, European Southern Observatory. It is the world's most advanced optical telescope that provides more discoveries than any other ground telescope.



VLT is amongst others responsible for the first picture of an exoplanet, a heavenly body that is located in a different planetary system. The journey to this heavenly body, with a speed of 62.000 km/h takes around 76.000 years.

To take pictures in this distance, incredible precision is required. To get a clear picture the temperature of the system is regulated with a continuous flow system to  $-193^{\circ}\text{C}$ , without a loss of electrical power. IBC Wälzlager guarantees for the exact positioning of the optics with its ruby- and tungsten carbide balls as well as angular contact ball bearings equipped with gold coated bearing rings. With this material combination the highest thermal conductivity and lowest friction are maintained at  $-193^{\circ}\text{C}$ .



**AU-RU 71907.E.K.P2A.DF8**  
**AU-WC 71920.E.S.P2A.DB25**

Six IBC high precision bearing pairs ensure the adjustment of the camera in the so called Infrared Spectrometer and Array Camera (ISAAC) that is located inside the VLT. Thanks to ISAAC it was possible to determine the distance to the galaxy NGC 300 more precisely than to any other galaxy outside the immediate vicinity of the Milky Way. That is how IBC provides a fundamental contribution to the exploration of the universe and the understanding of still completely unknown solar systems.

