

# **Robo-Flex**

## **Revolutionary 3D Locking Ball Joint Technology**

The tested Robo-Flex PL (Passive Locking) ball joint technology is ready for implementation into a broad spectrum of mature, diverse applications.

### **Robo-Flex PL Know-How**

A rounded object such as a ball or part thereof has a surface covered with polygonal patterns of spaced apart protuberances. The spaces between protuberances are cavities. When an assembly of closely spaced, spring-loaded actuators is imprinted against the protuberances, the actuators emulate a mirror image of the opposing surface. Actuators contacting protuberances are pushed back, while unobstructed actuators penetrate into the cavities between protuberances. Once trapped in a cavity, the actuators are unable to move in any direction, thereby freezing the spatial orientation between actuators and ball surface against forces of pitch, yaw and roll, (the three degrees of freedom). As soon as the actuator assembly is retracted from the protuberances, the unhindered ball can be freely moved to another angle. The actuators, compressed to various depths while engaged with the protuberances, regain their fully extended position ready to imprint the protuberances at a different locking position.

Werner O. Merlo  
CEO Medical Bionics Inc.