

Minimally invasive mitral valve surgery

– training on the simulator



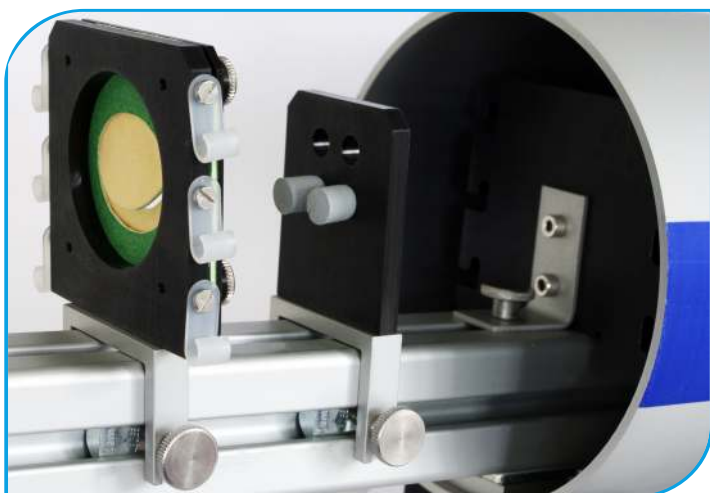
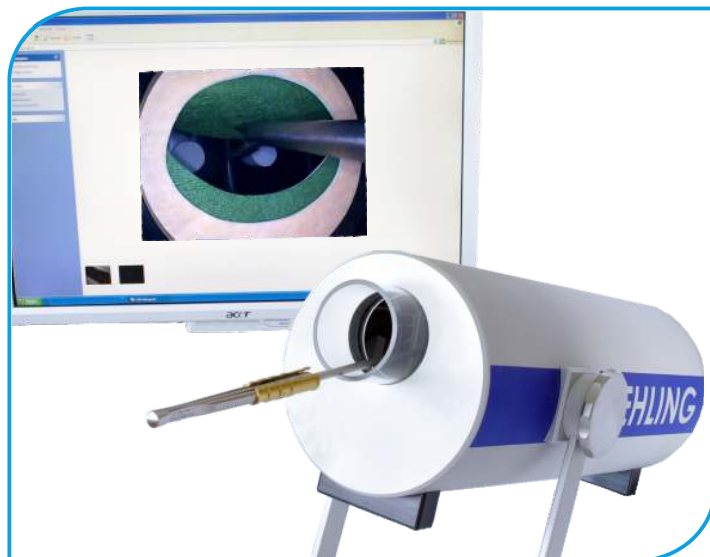
The **MICS MVR simulator** serves to develop and refine manual/tactile skills of surgeons on a dummy instead of 'learning by doing' in the animal facility or during a human operation.

The simulator was especially designed for operation techniques of the minimally invasive cardiac surgery.

The fields of application include e.g. annuloplasty, chordal replacement, triangular resection of the posterior leaflet, or the implantation of an artificial mitral valve.

The organ dummies concealed inside the simulator can only be reached via a small access. The view on the operation area that is only indirect, is enabled by an integrated USB endoscope camera – connected to an external imaging device, for example a laptop computer.

The simulator's slide-in module is removable – thus the beginner can gain first experiences under direct view as well.



The object support for annulus and mitral valve dummy and papillary muscle dummy can move freely in the guide rail, and thus the distance to each other and to the access is variable.

The dummies can be exchanged and reordered. They are separately included in the supply of the simulator.

Separately available suture ring dummies are designed to simulate the suture ring of a mitral valve prosthesis. Shape and size are according to the annulus dummy.

The suture fixation is assigned to retain sutures as used when implanting annuloplasty-rings.

That can be done in both closed and open position of the drawer.



The USB endoscope camera transmits the images from inside the closed simulator to an external imaging device (e.g. laptop computer).

The camera is included in the scope of delivery of the simulator.



Training instruments can be stored securely in specific supports in the simulator. A set of instruments is separately included in the supply of the simulator. This set comprises:

- needle holder
- forceps (non-traumatic)
- valve scissors
- knot pusher
- nerve hook

The instruments are intended for laboratory/wet lab use only, and must not be used in human medicine for hygienic reasons.