



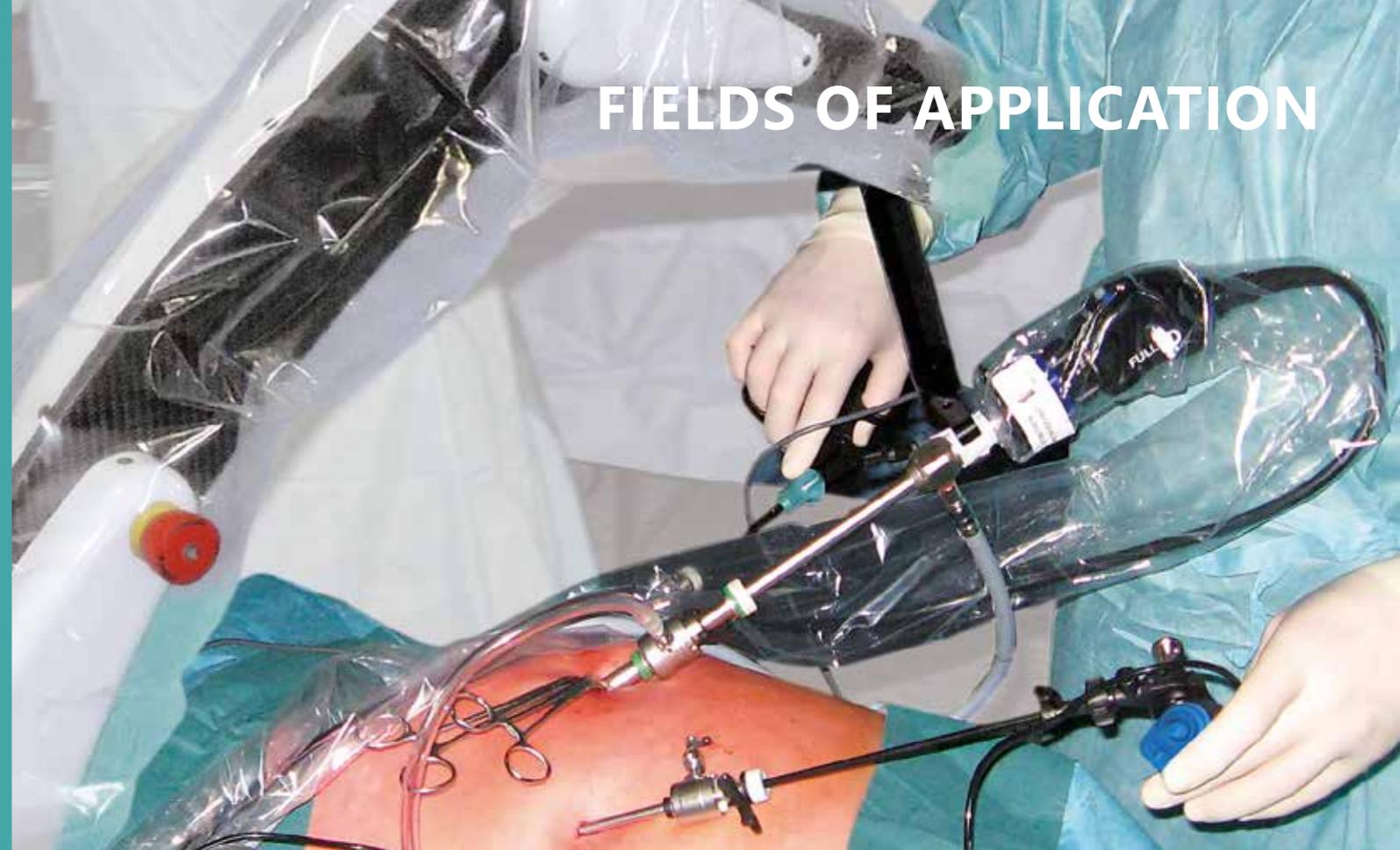
SOLOASSIST^{II}

ROBOTIC CAMERA CONTROL



THE SMART CAMERA GUIDANCE SYSTEM

FIELDS OF APPLICATION



SOLOASSIST II

- Steady** field of vision
- Intuitive and precise** scope guidance
- Quick and easy** set up



Cardiology



Visceral Surgery



Gynaecology

BENEFITS IMPACTING THE PATIENT



Fast intervention in emergencies

The support of the SOLOASSIST^{II} is available at all times. As our system can also be used for simple procedures without an assistant, waiting times due to staff shortages in case of emergency operations can be significantly reduced.^{1,4}

Less pain - faster recovery

Reduced force on the trocar compared to hand-held camera guidance leads to a reduction in post-operative pain.³ This can also shorten the hospital stay after surgery.⁴

Shorter operating time

The use of 3D (compared to 2D) technologies enables a shorter operation time.^{4,7}

Less postoperative risk

With each 30 minutes operation time the risk of PONV (Postoperative nausea and vomiting) increases by 60%.¹⁰ The patient will benefit from the reduced operation time enabled by the assistance of the SOLOASSIST^{II}.^{4,7}

BENEFITS FOR THE CLINIC



Better scheduling efficiency

Thanks to the SOLOASSIST^{II} the surgeon guides the scope himself and simple procedures can be performed without further assistance.⁴ In case of demanding interventions assistants can be integrated as equal team members since being relieved of the task of holding the scope.

Since the SOLOASSIST^{II} is always available, it is the ideal partner in case of emergencies or staff shortages.

More efficiency in the OR

As efficient working is possible, valuable operating time is saved.⁴

Easy transport and storage

The SOLOASSIST^{II} TROLLEY allows easy transport between OR and space-saving storage when not in use.

Maintenance-free and compatible

The SOLOASSIST^{II} is maintenance-free. It is also compatible with most commercially available operating tables and endoscopes.

Enhancing your clinic's image

A modern and positive image is one of the most important competitive advantages. Demonstrate your progressiveness by using robotic surgery.

BENEFITS FOR THE SURGEON



90% of all surveyed surgeons prefer using the SOLOASSIST^{II} instead of human assistance.^{5,8}

Stable positioning, steady image

Thanks to its structure, the SOLOASSIST^{II} is stable and vibration-free. It does not shake or tilt the horizon, enabling fatigue-free work.^{5,6}

Better vision

The guidance of the scope using the JOYSTICK is very sensitive and precise. This minimizes soiling of the front lens.⁴

Ergonomic and relaxed working

Tensions in the neck and back, eye fatigue and the resulting pain and nausea can be significantly reduced.⁹

The SOLOASSIST^{II} supports the endoscope from above, leaving ample room for your instruments. There is no need to alter your workflow.^{2,4,5}

Straightforward handling, ready to operate in just a few minutes

Working with the SOLOASSIST^{II} is intuitive and very easy. It is quickly attached on the operating table and covered with a STERILE COVER while the patient is being prepared for surgery.^{2,6}

Improved coordination of work processes

As the surgeon positions the scope himself, there are no misunderstandings. Assistants can still take over the camera guidance for learning purposes.⁴

Quicker interventions

As the assistant concentrates on more demanding tasks, four-handed operations are made possible, the duration of interventions is shorter.^{2,4,5}

1. Gillen, S., Pletzer, B., Heiligensetzer, A. et al. Solo-surgical laparoscopic cholecystectomy with a joystick-guided camera device: a case-control study. *Surg Endosc* 28, 164-170 (2014). <https://doi.org/10.1007/s00464-013-3142-x>
2. Beckmeier, L., Klapdor, R., Soergel, P. et al. Evaluation of active camera control systems in gynecological surgery: construction, handling, comfort, surgeries and results. *Arch Gynecol Obstet* 289, 341-348 (2014). <https://doi.org/10.1007/s00404-013-3004-8>
3. Tuschy, B., Berlit, S., Lis, S., et al. Influence of a robotic camera holder on postoperative pain in women undergoing gynaecological laparoscopy. *In Vivo*. 2014 Mar-Apr;28(2):229-34. PMID: 24632978
4. Holländer, S.W., Klingen, H.J., Hess, S., et al. Benefits of Robotic Camera Assistance in Minimally Invasive Bariatric Procedures: Prospective Clinical Trial Using a Joystick-Guided Camera-Holder. *Surg Technol Int*. 2019 May 15; 34:87-92. PMID: 30888669
5. Park, J.-O., Kim, M.R., Park, Y.J., et al. Transoral endoscopic thyroid surgery using robotic scope holder: Our initial experiences. *J Minim Access Surg*. 2020 Jul-Sep;16(3):235-238. doi: 10.4103/jmas.JMAS_12_19. PMID: 31031326; PMCID: PMC7440021

6. Arezzo, A., Vettoretto, N., Francis, N.K. et al. The use of 3D laparoscopic imaging systems in surgery: EAES consensus development conference 2018. *Surg Endosc* 33, 3251-3274 (2019). <https://doi.org/10.1007/s00464-018-06612-x>
7. Holländer SW, Klingen HJ, Fritz M, Djalali P, Birk D. Robotic Camera Assistance and Its Benefit in 1033 Traditional Laparoscopic Procedures: Prospective Clinical Trial Using a Joystick-guided Camera Holder. *Surg Technol Int*. 2014;25:19- 23. PMID: 25419950
8. Ohmura Y, Nakagawa M, Suzuki H, Kotani K, Teramoto A. Feasibility and Usefulness of a Joystick-Guided Robotic Scope Holder (Soloassist) in Laparoscopic Surgery. *Visc Med*. 2018; 34(1):37-44. Doi:10.1159/000485524
9. Dixon F, Vitish-Sharma P, Khanna A, Keeler BD. Work-related musculoskeletal pain and discomfort in laparoscopic surgeons: an international multispecialty survey. *Ann R Coll Surg Engl* 2023; 105: 734-738. <https://doi.org/10.1308/rcsann.2023.0024>
10. Sinclair DR, Chung F, Mezei G. Can Postoperative Nausea and Vomiting Be Predicted? *Anesthesiology*. 1999;91(1):109-18. Doi:10.1097/0000542-199907000-00018

ABOUT OUR SYSTEM

Smart camera control system for holding and guiding scopes

The SOLOASSIST^{II} stabilizes the image quality of 2D, 3D and 4K systems. Our system guarantees a stable surgical field of view even in extreme endoscope positions. In addition, the surgeon can finally determine the field of vision himself. As the guidance is now independent of the assistant, he or she can actively participate in the operation for more demanding tasks.

The SOLOASSIST^{II} is an ergonomic and efficient solution that benefits not only the surgical team, but as well the patients.

Options to control SOLOASSIST^{II}

1. MANUAL GUIDANCE
2. JOYSTICK
3. VOICE CONTROL

MANUAL GUIDANCE



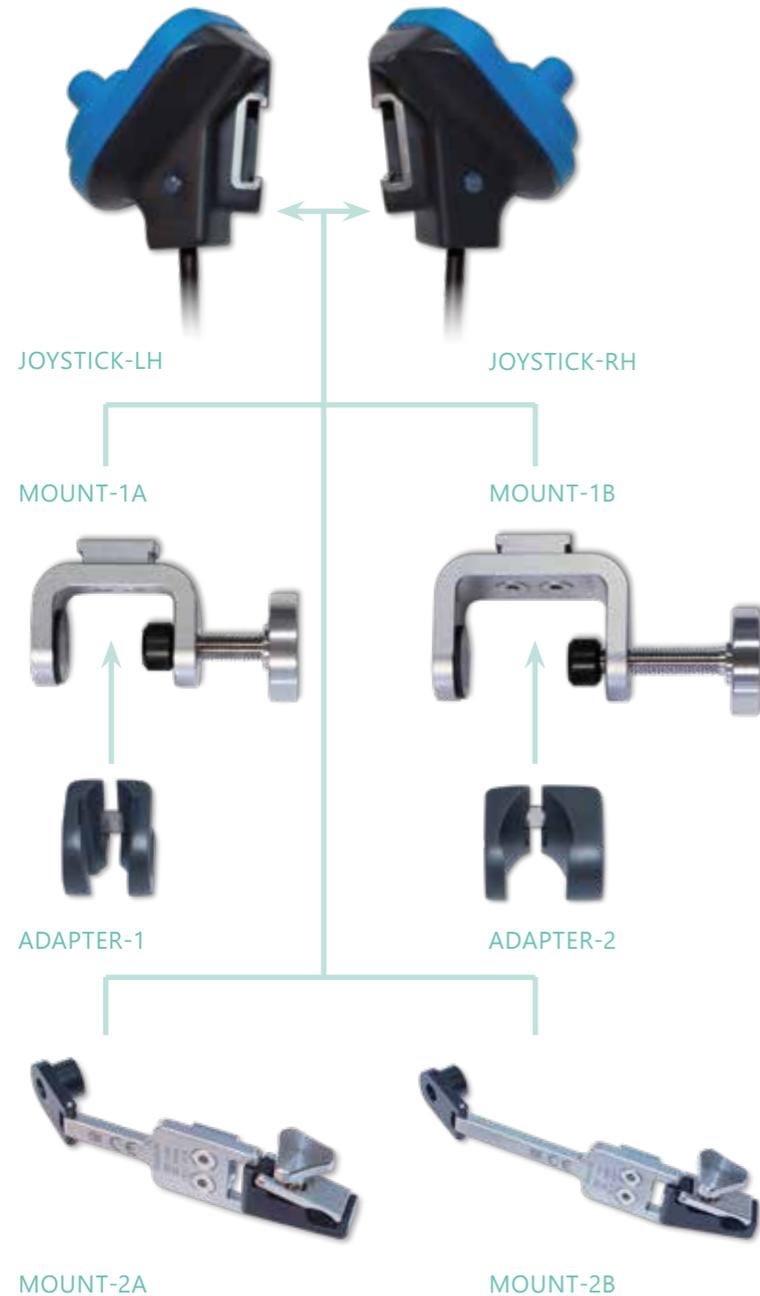
Where flexibility meets precision

The SOLOASSIST^{II} is designed to fully support the surgeon. Its manual control offers a 360-degree range of movement that is comparable to the capabilities of a human assistant. However, holding the endoscope in an ergonomically unfavorable position over a longer period of time is never too strenuous for the SOLOASSIST^{II}.

The SOLOASSIST^{II} is equipped with unlockable brakes that allow the arm to be moved quickly and precisely by hand at any time. The weight of the endoscope is largely compensated during manual guidance.

To reposition the arm, hold the arm at the distal end and press the corresponding button on the control panel. The arm becomes freely movable. As soon as you have reached the desired setting, release the button. The arm locks and the image detail is stable.

JOYSTICK



Guiding a scope has never been so sensitive

The JOYSTICK is attached directly to the surgeon's instrument and enables a very sensitive and ergonomic control of the SOLOASSIST[®]. The use is intuitive and adapts to your customary way of working.

The JOYSTICK is available for left and right handed users. It can be connected to most common MIS instruments using magnetically locked MOUNTS. The JOYSTICK, MOUNTS and ADAPTERS are designed to be reprocessed in the STERILISATION TRAY.

You can work simultaneously with JOYSTICK and VOICE CONTROL.



STERILISATION TRAY

VOICE CONTROL

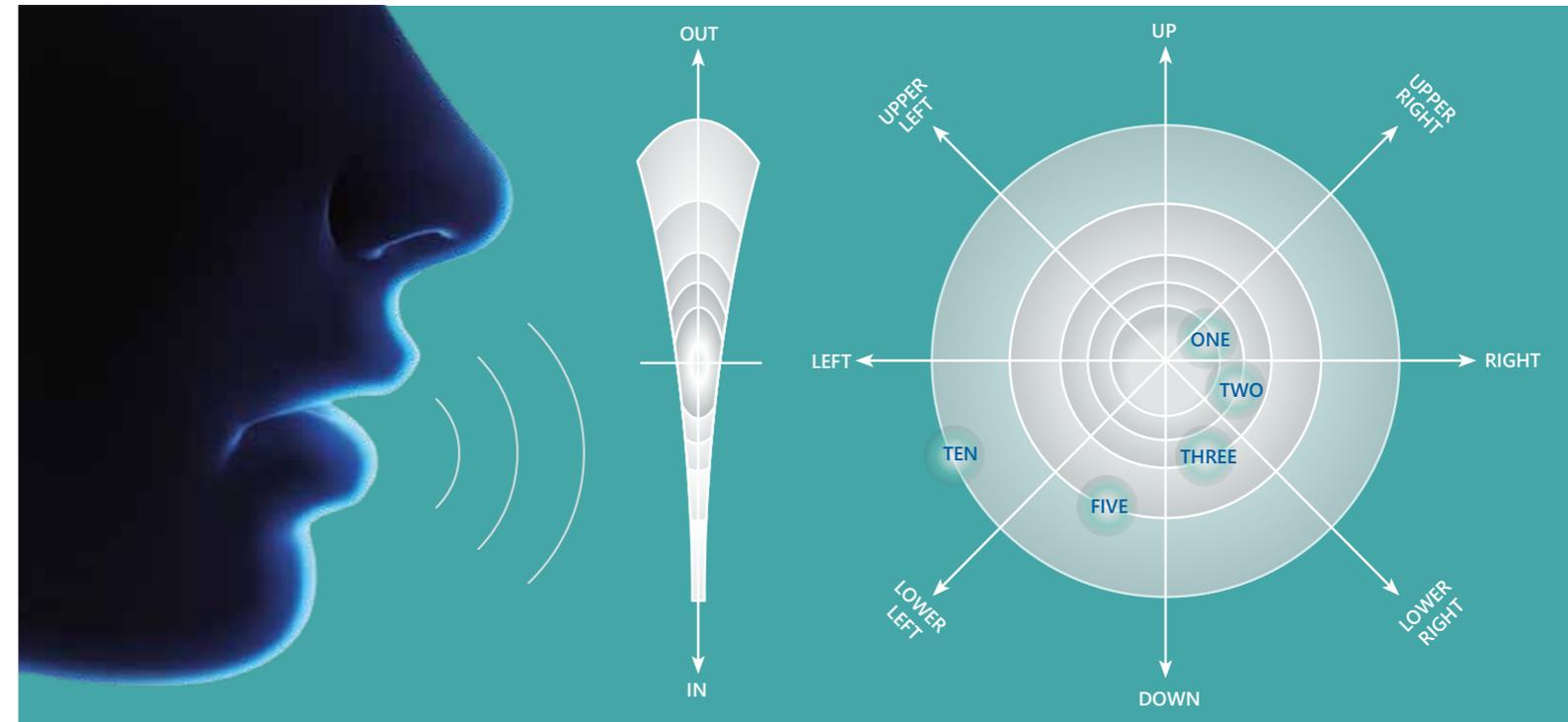
Control the SOLOASSIST[®] simply with your voice

The intuitive command set of the VOICE CONTROL allows a precise guidance of the endoscope during operation.

Any command sequence is started with the hotword "SOLO". After recognition of the hotword, commands are accepted for ten seconds. It is possible to save several positions and to adjust to three preset speeds. The four main directions (UP, DOWN, LEFT, RIGHT) as well as zooming (IN, OUT)

can be combined with a distance modifier (ONE, TWO, THREE, FIVE, TEN) to enable an accurate control over the scope. In addition it is possible to use the keywords UPPER and LOWER to move diagonal.

The VOICE CONTROL is provided with English command recognition as standard.



No true-to-scale representation within the parts. Magnification scale differs greatly.

ABOUT THE SOLOASSIST^{II}



Quick-coupling device for easy mounting to any surgical table with standard rail

REPROCESSABLE COMPONENTS

UNIVERSAL JOINT
ENDOSCOPE CLAMP
TENSION SLEEVES

ABOUT THE SOLOASSIST^{II}

100 % Compatibility

AKTORmed offers a wide range of accessories to connect all available 5 and 10 mm scopes.

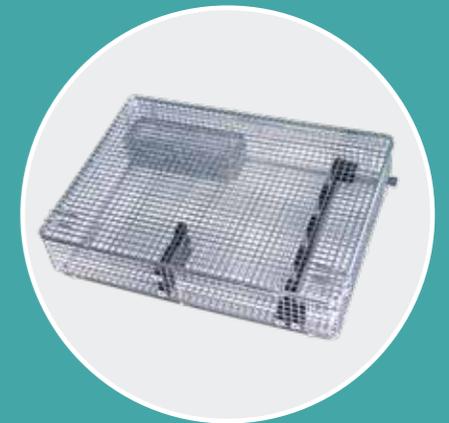
SOLOASSIST^{II}

A finely tuned system of components allows the adaptation to almost all commercially available scopes. The JOYSTICK can be attached to most MIS instruments.

The STERILE SET of the SOLOASSIST^{II} consisting of the UNIVERSAL JOINT, ENDOSCOPE CLAMP, TENSION SLEEVES and STERILISATION TRAY is multi-use. The STERILE SET and the JOYSTICK are autoclavable.

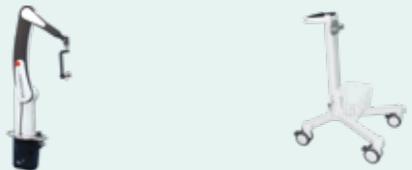
Before every intervention the SOLOASSIST^{II} is covered with a single-use STERILE COVER.

After the surgical procedure, the SOLOASSIST^{II} is hung onto the TROLLEY which is designed for easy and safe transport and storage of our systems.

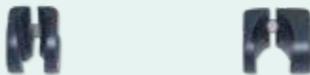


STERILISATION TRAY for reprocessing of our autoclavable components

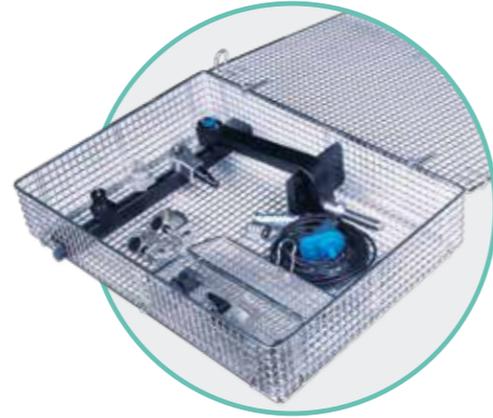
BASIC SYSTEM COMPONENTS

	<p>SOLOASSIST^{II} Robotic Arm / TROLLEY Thanks to its quick-coupling device for easy mounting to any surgical table with standard rail. The TROLLEY is designed for safe transport and storage of our robotic arms.</p>
	<p>UNIVERSAL JOINT * Pivoting connection between SOLOASSIST^{II} and ENDOSCOPE CLAMP</p>
	<p>ENDOSCOPE CLAMP * For clamping the endoscope with the TENSION SLEEVES</p>
	<p>TENSION SLEEVES * For 4, 5, 10 and 12.7 mm diameter scopes</p>
	<p>STERILISATION TRAY * Developed for simultaneous autoclaving of all reprocessable components</p>
	<p>STERILE COVER Before every intervention the SOLOASSIST^{II} is covered with a single-use STERILE COVER.</p>

ACCESSORIES

	<p>JOYSTICK RH / JOYSTICK LH * For controlling and positioning the SOLOASSIST^{II} Not for individual sale Only available as BUNDLE with STERILE COVER</p>
	<p>MOUNT 1A / MOUNT 1B * For attaching the JOYSTICK to the most commonly used MIS instruments.</p>
	<p>ADAPTER 1 / ADAPTER 2 * Inlay for MOUNT 1A / MOUNT 1B for attaching to specially formed instruments.</p>
	<p>MOUNT 2A / MOUNT 2B * For attaching the JOYSTICK to strongly rounded MIS instruments.</p>
	<p>VOICE CONTROL / HEADSET For controlling and positioning the SOLOASSIST^{II} using voice commands</p>
	<p>Y-LINE For a simultaneous use of two input devices (JOYSTICK and VOICE CONTROL)</p>

ORDERING THE SOLOASSIST^{II} SYSTEM*

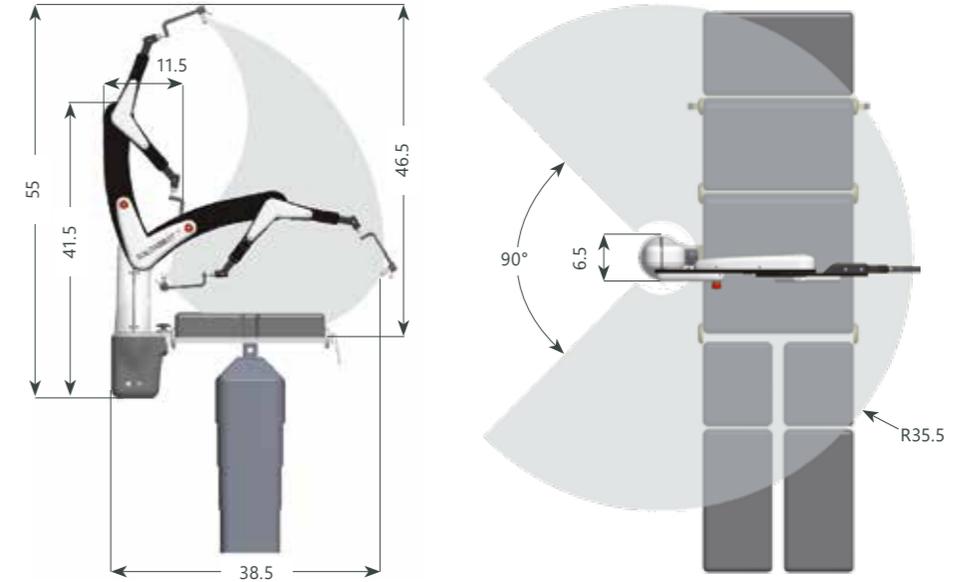


TECHNICAL SPECIFICATIONS

In respect to the endoscope

- Rotation: 360° multi turn
- Tilt: 0° up to 90° in respect to the vertical axis
- Zoom: > 12 in

All dimensions ± 0.5 in



Article number	Designation	Content / Description
171910	SOLOASSIST ^{II} SET	<ul style="list-style-type: none"> 1 SOLOASSIST^{II} 1 TROLLEY
182235	STERILE SET	<ul style="list-style-type: none"> 1 ENDOSCOPE CLAMP 1 UNIVERSAL JOINT 1 TENSION SLEEVE D10 1 TENSION SLEEVE D5 1 STERILISATION TRAY
182246	BUNDLE JOYSTICK-LH (LEFT HAND)	<ul style="list-style-type: none"> 1 JOYSTICK-LH 3 STERILE COVER PU/50 ea
182248	BUNDLE JOYSTICK-RH (RIGHT HAND)	<ul style="list-style-type: none"> 1 JOYSTICK-RH 3 STERILE COVER PU/50 ea
110084	STERILE COVER PU/50ea	Pack of 50 individually packed STERILE COVER for SOLOASSIST ^{II}
171914	VOICE CONTROL SET	<ul style="list-style-type: none"> 1 VOICE CONTROL 1 CONNECTION CABLE (SOLOASSIST^{II} - VOICE CONTROL) 1 Y-LINE 1 HEADSET 1 CHARGER HEADSET

Feature	SOLOASSIST ^{II}
Approval	CE (class I) , FDA 510 (k)
Supply voltage	100 - 240 Volt, 50 - 60 Hz
Maximum power consumption	60 VA
Size	11.5 x 6.5 x 41.5 in (291 x 167 x 1059 mm)
Weight	25 lbs
Safe working load	2.2 lbs (1.0 kg)
Driven axis	3
UNIVERSAL JOINT & ENDOSCOPE CLAMP	Multiuse
Endoscope size	4 to 12.7 mm
OR table adaption	Quick fastener, suitable for OR tables with European and US size rails, UK rails with additional adapters
Manual axis at distal end	Selectable, 8 x 45°



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