

SUSI Submarine System

Multi-Purpose Solution for Various Inspections and Non-Destructive Examinations

SUSI is the fastest and most flexible solution for underwater VT-1 and VT-3 visual inspections, specific non-destructive examinations (NDE) as well as search and retrieval of foreign objects (FOSAR).

Challenge

Performance of visual inspections as well as other NDE tasks are mandatory according to plant pre-service and in-service inspection programs. Execution during outages on the critical path, where time pressure is an issue, calls for rapid performance without compromising precision and reliability. Time constraints also require efficient contingency tools for ad-hoc inspections or FOSAR.

Lifetime extension programs will demand additional inspection scope to be performed.

Solution

SUSI is a multi-purpose device for underwater visual inspection and NDE of various reactor areas and additional applications.

Visual inspection (VT-1 and VT-3) of:

- Reactor pressure vessel (RPV) and RPV internals
- Main coolant pumps, reactor coolant lines and other piping
- Pressurizer, accumulators, tanks (primary and secondary side)
- Steam generator (primary and secondary side)

Other applications:

- FOSAR
- Ultrasonic inspections of core barrel and core baffle bolts
- Observation of underwater component handling



SUSI 420



SUSI 270

Customer benefits

- Time savings thanks to rapid and highly reliable performance
- Universally applicable multi-purpose equipment family
- FOSAR for safe operations
- Highly experienced and certified personnel

Your performance
is **our** everyday **commitment**



SUSI 190

Technical information

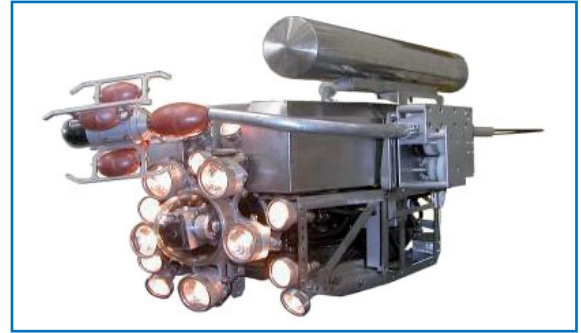
- Extremely stable platform for the highest picture quality
- High maneuverability with four freely positionable axis
- Cameras and components are highly tolerant and resistant to radiation
- Flexible system with various add-ons
- Rapid setup times
- Qualified according to several codes and standards:
 - DIN 25435-4
 - KTA 3201.4 / KTA 3204
 - MRP 227-A
 - ENIQ
 - ASME, Sec. XI

Additional equipment and add-ons:

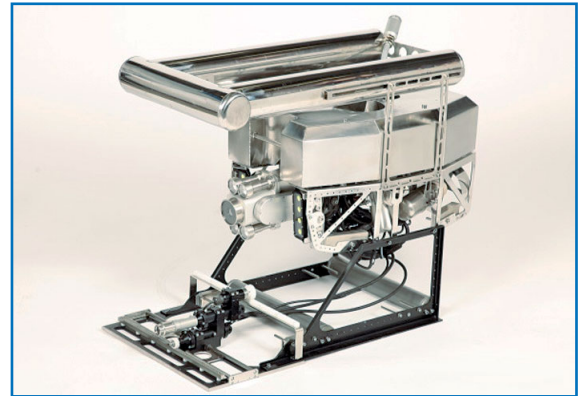
- CCD-color-zoom camera with rotation and pan and tilt functions
- B/W tube camera
- Various grippers, suitable for the recovery of loose parts
- Suction device for the removal of loose parts

Dimensions and weight:

- SUSI 420: 280 (H) x 355 (W) x 600 (L) mm, 25 kg
- SUSI 270: 240 (H) x 250 (W) x 400 (L) mm, 10 kg
- SUSI 190: 90 (H) x 190 (W) x 360 (L) mm, 8 kg
- Supply cable: length 75 or 50 m, 20 kg
- Control unit: 600 (H) x 500 (W) x 500 (L) mm



SUSI 420 with satellite camera



SUSI 420 with X-rail for ultrasonic inspections

Key figures

More than **480** successful applications worldwide

Presently **16** SUSI systems in use worldwide mainly for outage services in nuclear power plants (NPPs)

References

Many customers request the availability of SUSI on-site for the entire duration of their outage to ensure it is ready to use for ad-hoc tasks without delay.

Reactor types and designs:

- KWU BWR and PWR
- Framatome PWR
- Westinghouse PWR
- Babcock & Wilcox PWR
- VVER

NPPs in:

- Europe (Germany, Switzerland, France, Belgium, Netherlands, Sweden, Bulgaria, Slovenia)
- USA
- Brazil
- South Africa
- China

BWR: boiling water reactor PWR: pressurized water reactor VVER: water-water energetic reactor

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