![UYAR VISION logo]

UYAR VISIONLINE

Visual process monitoring of machine tools

MANUFACTURING DIGITIZATION

What is the UYAR VISIONLINE?

Cooling lubricants are indispensable for machining processes in machine tools, but make it difficult for the machine operator to see the production process. Spinning windows are already trying to solve this problem, but they entail considerable restrictions with regard to the viewing area and the associated ergonomics. With the innovative camera system for process monitoring for wet and dry areas of machine tools, you increase your productivity, increase process reliability and improve the ergonomics of the operating personnel.

The UYAR VISIONLINE offers the right solution for all areas related to the production process in the machine tool. The system can be integrated into lathes, milling machines, grinding machines or robot cells. The main application is process monitoring in the operative manufacturing business. Our system is also the ideal solution for presenting machines, tools or processes at trade fairs or in showrooms. In order to make the video signal available for production planning, accessory devices offer the option of bringing the video stream into the network. It is also possible to record the video stream in order to analyze machine malfunctions or crashes afterwards.
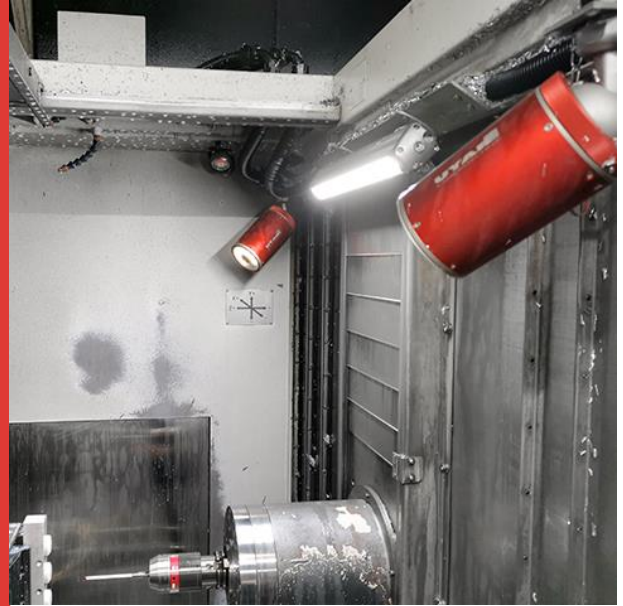

Blind window in the manufacturing process
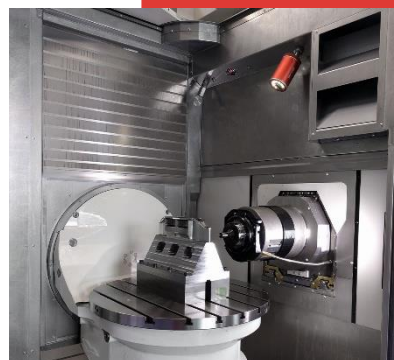
Installation of RWC 2.0 in 5-axis milling machine

UYAR VISION 1

What advantages does the UYAR VISIONLINE offer?

Always a clear view
UYAR camera systems create insights into your production processes. Whether heavily splashing cooling lubricants in machine tools or dry machining in robot cells, our product portfolio offers the right solution for every application.

Increased process reliability
Immediate intervention by the operator thanks to zero latency image transmission via HDMI. The operator no longer has to rely solely on his hearing and other technical assistance systems, which means more control over the machining process.

Modular system landscape
If you have already installed one of our camera systems, but need a recording function later or would you like to bring the video signal into the network. Our camera systems are designed in such a way that all accessories can be easily retrofitted.

Ergonomic work
The monitors can be freely positioned and mounted so that they can be swiveled and tilted. Ideal for changing operating personnel e.g. in multi-shift operation. Optimum field of view adjustment to the needs of the operating personnel.
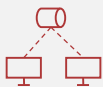
Multiple display options
You can transmit several camera signals to one monitor or display one camera signal on different monitors using a signal splitter, this always offers the operator the best possible view of the production process.

Flexible installation options
With numerous options for quick installation in front of the housing wall or roof, we offer all options for an individually optimized camera setup. The camera systems can be installed in both new and used machines with minimal effort.

Recording
In order to increase the effectiveness of the manufacturing process, it is important to avoid disruptions. Using the recording function, cause analyzes can be carried out after a fault in order to continuously improve the production process and strive for fault-free operation.

UYAR provides support throughout the entire process chain

INCREASE IN EFFICIENCY

Run-in process

With our products, visual control for the machine operator during the run-in process becomes safer and effortless. Efficiency gains in the process result from the elimination of interruptions normally caused by the frequent opening of the machine door.

In addition, the continuous optical control leads to a significant reduction in collisions in the processing area. The effects are clear: **lower scrap costs, fewer machine downtimes and as a result, significantly increased productivity.**

Serial process

The UYAR camera systems enable permanent monitoring of the tool and workpiece, which provides you with valuable information for the continuous improvement of your production process.

In addition, our products offer immense advantages in the organization of production personnel. **Through optical control of the machining process, UYAR camera systems are an enabler for multi-machine operation.**

Production digitization

Credentials :

röders TEC

Member IMC Group Ingersoll Cutting Tools

HEDELIUS

HELLER

WNT

MAPAL

KOMET CERATIZIT GROUP

WENDT MASCHINENBAU

Which products are part of the UYAR VISIONLINE?

RWC 2.0

EAC 2.0

EC 2.0

The RWC 2.0 can be used for process monitoring in production areas with heavy spraying of cooling lubricants. A rotating special glass pane, which is located in front of the camera lens, is able to throw away all cooling liquids and chips due to the rotational movement.

The EAC 2.0 can be used for visual process monitoring of machining areas that are under the influence of low to medium splashing cooling lubricant emulsions. A special compressed air attachment creates a constant curtain of air in front of the camera lens, which repels cooling water and chips.

The EC 2.0 is the ideal solution for visual process monitoring in wet and dry rooms where no splashing cooling lubricants are used, such as in tool changing systems, robot cells, laser systems and loading systems. The slim design makes it possible to use it even in cramped workspaces.

	RWC 2.0	EAC 2.0	EC 2.0
Resolution	1080p (60, 30 fps)	1080p (60, 30 fps)	1080p (60, 30 fps)
Angle of view*	90° / 142°	90° / 142°	90° / 142°
Connection options	HDMI	HDMI	HDMI
Cooling lubricants amounts	◌ ◌ ◌	◌ ◌	x
Oil	✓	x	x
Lighting	✓	x	x
Areas of application	lathes, milling machines, grinding machines, rolling mills	lathes, milling machines, grinding machines, woodworking machines	dry machining, tool changing systems, loading systems, laser systems, robot cells

Comparison table
* 90° lenses are installed as standard. On request, 140° lenses can be installed.

i   All camera systems can be expanded on a modular basis, for example to bring the video stream into the network or to record it.

# Application example:
horizontal machining center

The application example shows a horizontal 3-axis machining center. The problem for the machine operator with this type of machine is that there is no view of the rear side during the production process. For this reason, two RWC cameras are positioned in the processing room. In addition, an EAC in the tool magazine and an EC in the pallet changer offer the possibility of monitoring the entire machine. Thanks to the 43" monitor with split-screen function, up to 4 video streams can be played simultaneously.
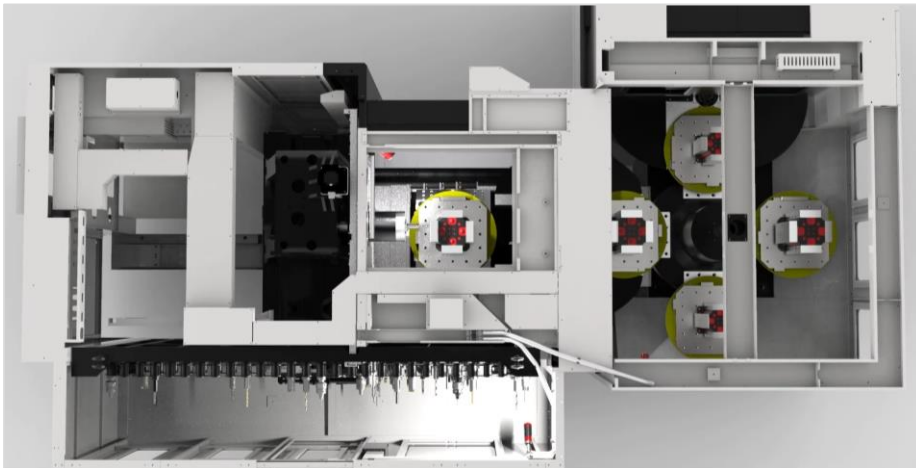
Top view of horizontal machining center

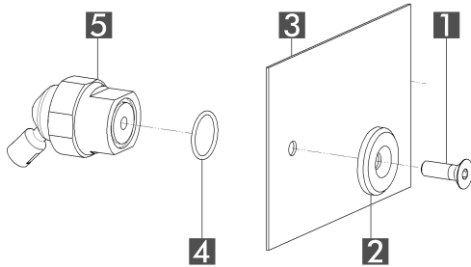Engine room with two RWC 2.0
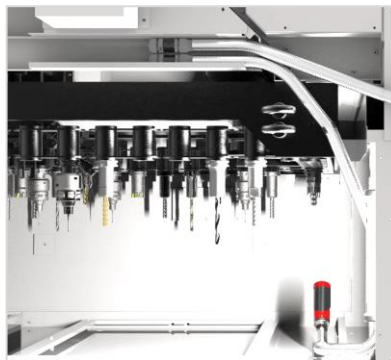
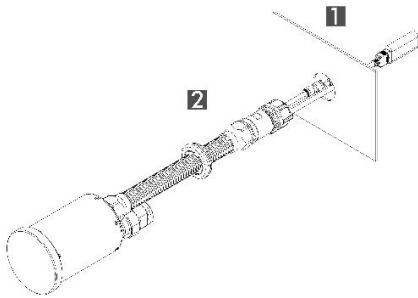Tool change magazine with EAC 2.0
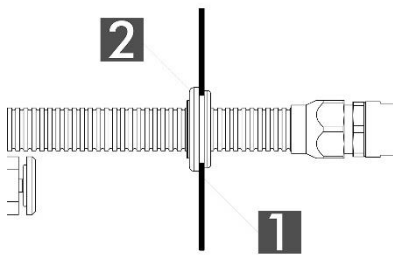
Link

How is the UYAR VISIONLINE installed?


PLUG & PRODUCE

To mount the camera with the external ball joint (5), an 8.2 mm hole must be drilled in the machine wall (3) in advance. The subsequent assembly is carried out using an O-ring (4), a washer (2) and a countersunk screw (1).

To route the hose package through the machine wall (1), a Ø 42 mm hole must be punched into the machine wall.

In order to continue to guarantee the tightness of the machine room, the assembly seal (2) must be inserted into the machine wall (1).
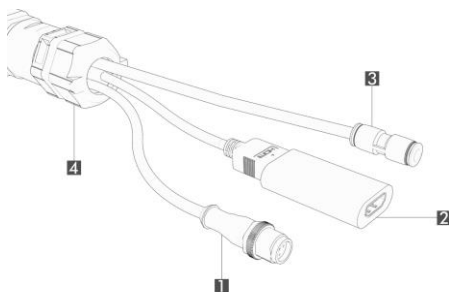
Finally, the three connecting cables will be connected. A power supply (1) of 24V is required for this. The video signal is connected to a terminal device via the HDMI socket (2). In addition, a compressed air supply (3) using a PA6 hose is required for the RWC 2.0 and EAC 2.0. A maintenance unit including a filter for processing the compressed air is part of the scope of delivery.

i This representation is the "external ball joint" variant. This can be expanded with a magnetic holder if flexibility in positioning is desired. In addition, the portfolio offers an internal ball joint.

What accessories does the UYAR VISIONLINE offer?

IP Encoder
The IP encoder converts the HDMI signal into a network-capable RTSP stream, which can then be streamed using a video player on the PC.

Network Video Recorder (NVR)
When the IP encoder has generated a RTSP stream, the video signal can be routed to the NVR. 8, 16 or 32 video signals can be streamed on the browser, recorded and transferred to mobile devices using the associated app.

HDMI - Splitter
If you want to display the video stream on multiple monitors, the HDMI splitter offers the option of splitting the video signal. In this way, the operating personnel can monitor the process on several monitors.

HDMI Extender
If the video signal has to be transported over long distances, it is converted using an HDMI extender. Distances of up to 70m are easily possible. Since network cables are used for data transmission, drag chain capabilities are also given.

HDMI-Capture /Frame Grabber
With the HDMI capture, content can be viewed on a PC/laptop in live streaming. Simply connect and start immediately.

Video-Recorder
With the help of the video recorder, video recordings can be made directly on the machine and saved on SD cards, USB sticks or external hard drives.

Streaming and recording in the network via IP encoder and NVR on a PC

Streaming in and out of the network via IP encoder and NVR on a Smartphone