



# Crab - Robot

## Internal Pipe Crawler



CR 15.09.1

The new modularly designed **CRAB-ROBOT** opens up  
new ways for the visual inspection  
of pipelines with diameters ranging from 50 mm to 1000 mm



The **CRAB-ROBOT** is modularly designed and can be retrofitted quickly and without any special tools for the specified tests and inspections. This new system embodies and reflects 30 years of practical experience in the fields of designing, developing and manufacturing video-endoscopic systems and testing them in close cooperation with our customers.

*What are the benefits of this system?*

- \* multi-functional use and easy handling,
- \* modularly designed controls,
- \* due to the modular design, customized and user-specific modifications can be carried out quickly and in a cost-effective way,
- \* light-intensive illumination system with powerful white-light LEDs (8000 K color temperature),
- \* Pan/Tilt camera-modules
- \* exchangeable camera heads with integrated lighting rings,
- \* manual or remotely-controlled focusing,
- \* negotiation of the smallest pipe bends of 1xd by the system without any problems,
- \* minor obstacles, uneven surfaces and changes in the cross section will be automatically adjusted.

*Control unit:*

A new compact and portable control-panel and a small cable reel with gold plated slip-rings guarantees a trouble-free signal assignment to the rear connection box.

The new control-panel has a built-in control-unit and comes as a standard with installed 10" LCD monitor and optional digital DVR with for the video recording.

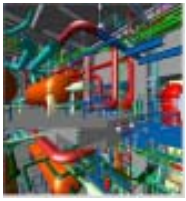


*Drive unit:*

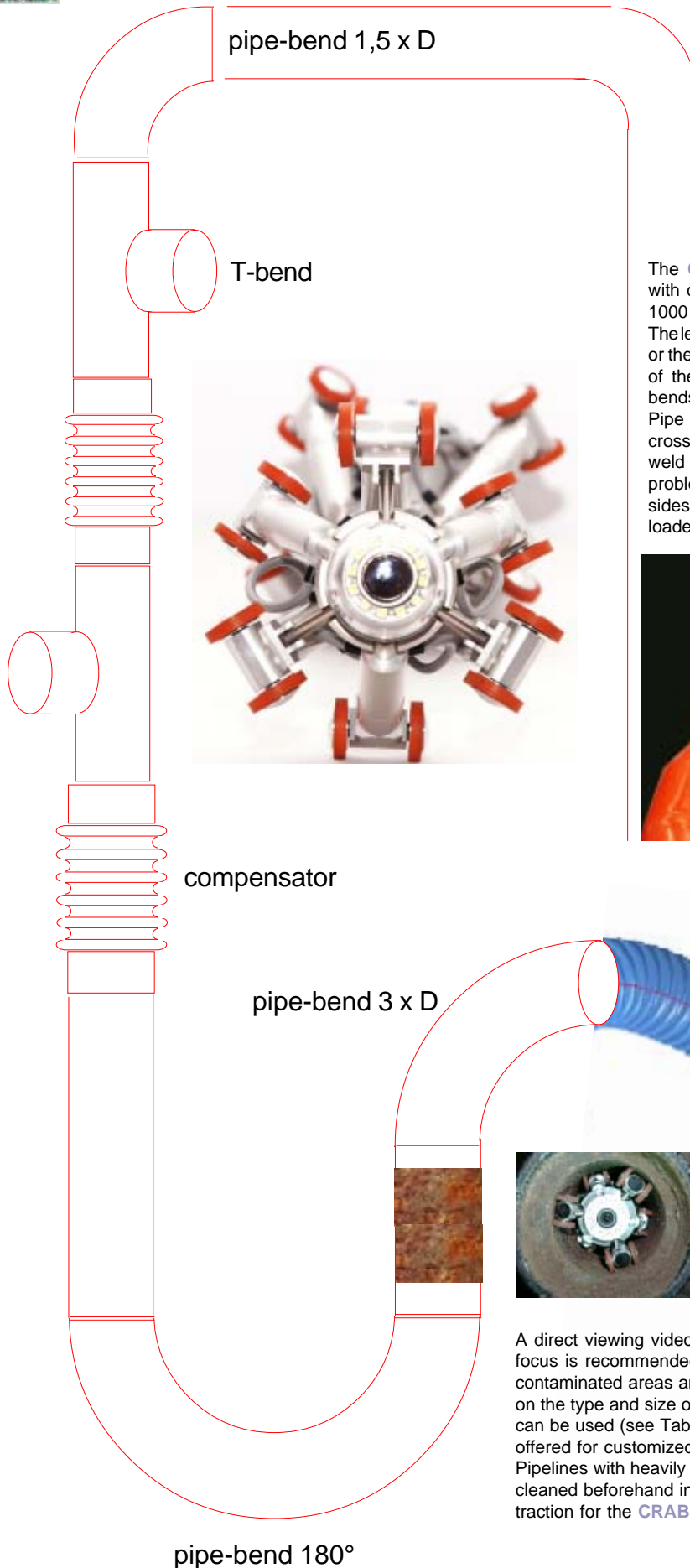
The **CRAB-ROBOT** consists largely of a drive unit and different video heads, the latter being either permanently fixed in the drive module or easily exchangeable by a plug-in coupling system. Each module is equipped with 6 spring-loaded drive units. Powerful miniature motors with combined planetary transmissions, 32 radial ball bearings and 12 wheels with a specific rubber coating will ensure maximum traction and thus the safe passage inside the pipelines, even if they have rough or smooth surfaces. The six drive arms which are individually spring-loaded will ensure that the device is precisely located in the center of the pipe and that uneven surfaces as well as minor changes in the cross section can be automatically negotiated.

Depending on the actual application, the **CRAB-ROBOT** can also be equipped with different video heads for direct viewing or with Pan&Tilt camera modules. A high-resolution 1/3" CCD miniature color sensor (*optionally with fixed or remote focus*) will ensure the transmission of sharp video images in superior color fidelity.

Despite its small size, the **CRAB-ROBOT** is of a robust design and does not require any maintenance or operational skills. Variants and customized modifications can be implemented speedily and supplied at favorable prices on request.

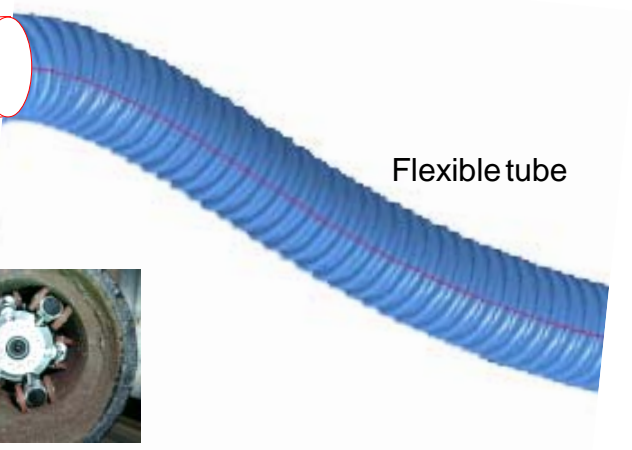


# Piping-Systems



The **CRAB-ROBOT** is suitable for pipelines with diameters ranging from about 50 mm to 1000 mm and a length of up to approx. 200 m. The length of the cables depends on the diameter or the size of the robot, on the internal surfaces of the pipelines and on the number of pipe bends to be passed.

Pipe bends of 1,5 x D, changes in the pipe's cross section, slight deformations or sagging weld seams will be negotiated without any problems. Even pipelines branching off on the sides can be passed safely, without the spring-loaded drive arms getting off course or blocked.

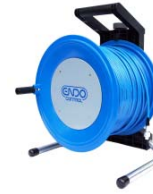


A direct viewing video head with wide angle lenses and remote focus is recommended for the inspection of corroded or contaminated areas and of faults in the material. Depending on the type and size of the **CRAB-ROBOT**, different video heads can be used (see Table). Particularly cost-effective solutions are offered for customized applications. Pipelines with heavily oiled or greasy surfaces will have to be cleaned beforehand in any case, in order to ensure sufficient traction for the **CRAB-ROBOT** and its safety.

# System-Chart



**Cable reels**



**Control-units**



**Caneras**

**Series**

**Types**

**Tube-Ø**

Built-in cameras  
not changeable

**XS**



CRXS-50	Ø50mm
CRXS-75/95	Ø75-95

Interchangeable  
cameras

**S**



CRS-80/110	Ø80-110mm
CRS-100/125	Ø100-125mm
CRS-125/150	Ø125-150mm
CRS-100/150	Ø100-150mm

**M**



CRM-150/180	Ø150-180mm
CRM-150/200	Ø150-200mm
CRM-180/230	Ø180-230mm

**X**



CRX-230/300	Ø230-300mm
CRX-300/400	Ø300-400mm
CRX-400/500	Ø400-500mm
CRX-500/650	Ø500-650mm
CRX-600/750	Ø600-750mm





## Pant+Tilt Cameramodule PTZ-80RF for Crab-Robot X-Series

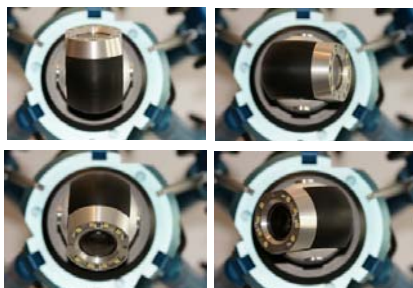


### New Pan and Tilt Camera-module for Crab-Robot X-Series with Zoom

All camera modules are equipped with a new high resolution CCD-camera with 480 lines, automatic white balance and electronic light control.



Technical specifications:	
Diam.camera-head	80mm
Image-sensor	1/4" SONY Super HAD CCD
TV lines	480 TVL
Pixels	438.000
Minimum illumination	2,5 Lux/F2,2
Focus	Remote-Focus
Lens	4,2- 42 (10xZoom)
Ligthning system	High intensity LED



### Technical specifications camera-module

Diameter	80mm
Supply part diameter	40mm
Rotation	360° endless
Swivel	2x100°
Focus	Remote-Focus
Illumination	10x4 (40)high intensity
LED`s	

# Optional accessories



Title generator



Digital Recorder



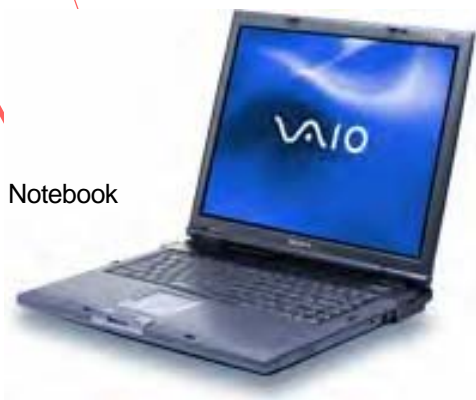
Meter counter



Video-glasses



Digital Recorder with SD-Card and Monitor



Notebook

DigitalMini-DV-Recorder with SD-card

