

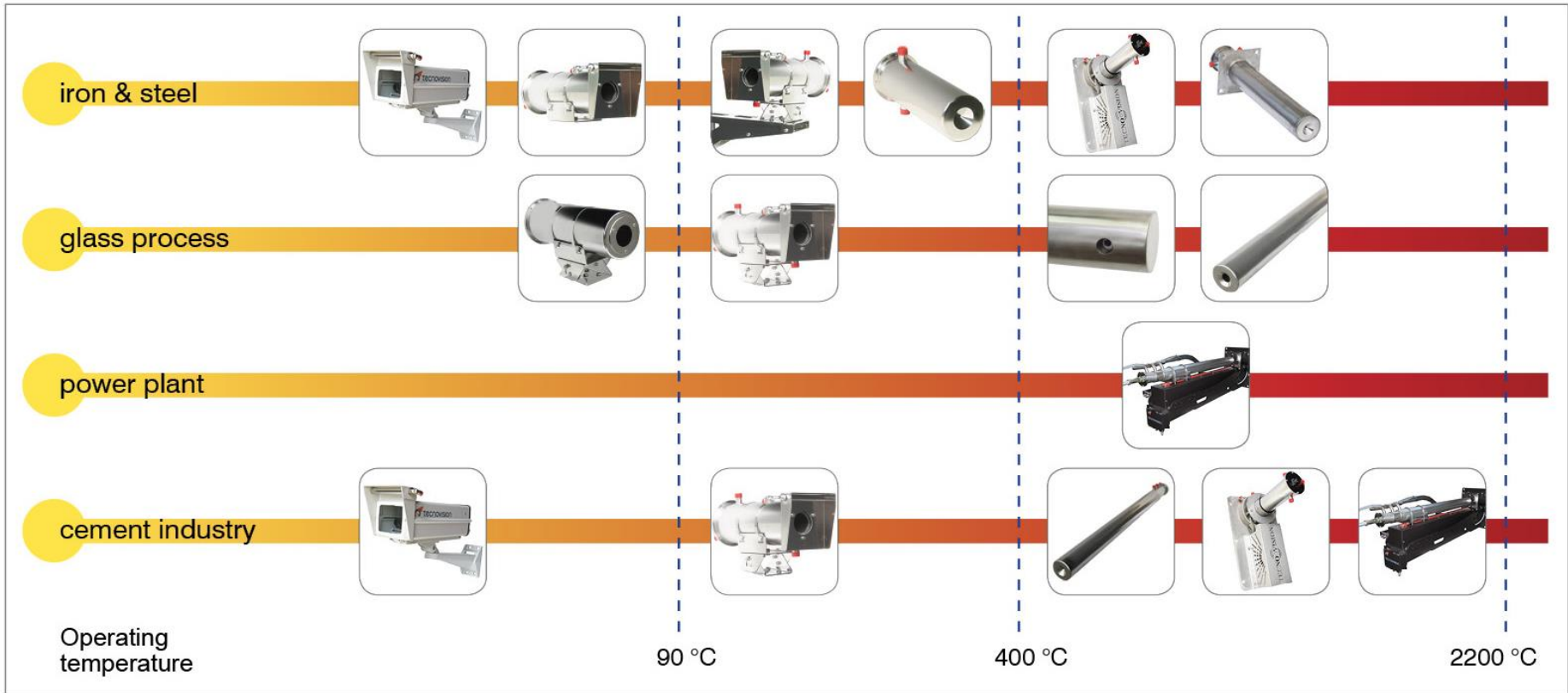
HIGH TEMPERATURE CAMERA SYSTEMS

TECHNOLOGIES & PRODUCTS

air^{tec} | acqua^{tec} | cam^{tec} | sonda^{tec} | in^{tec} | ou^{tec} | cab^{tec}

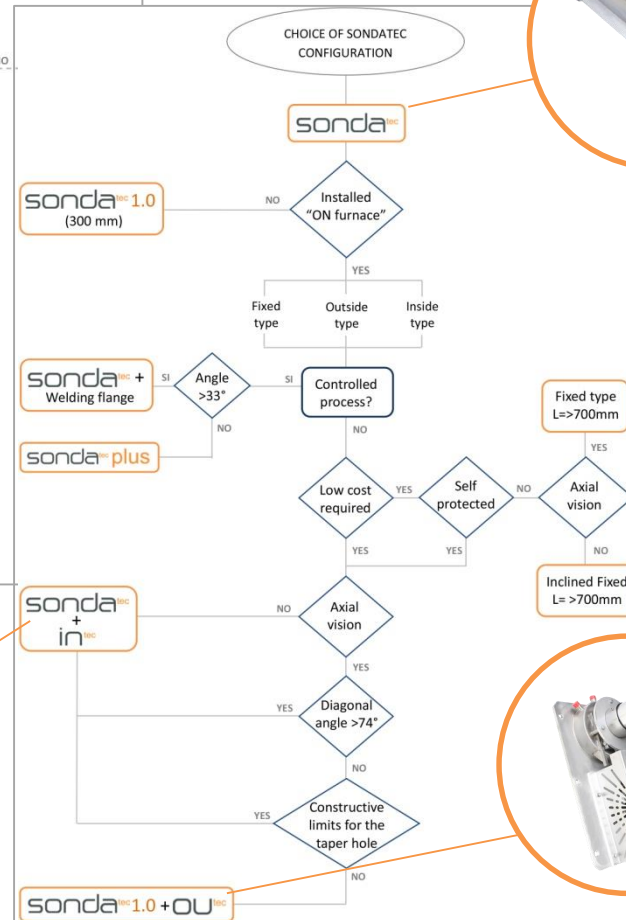
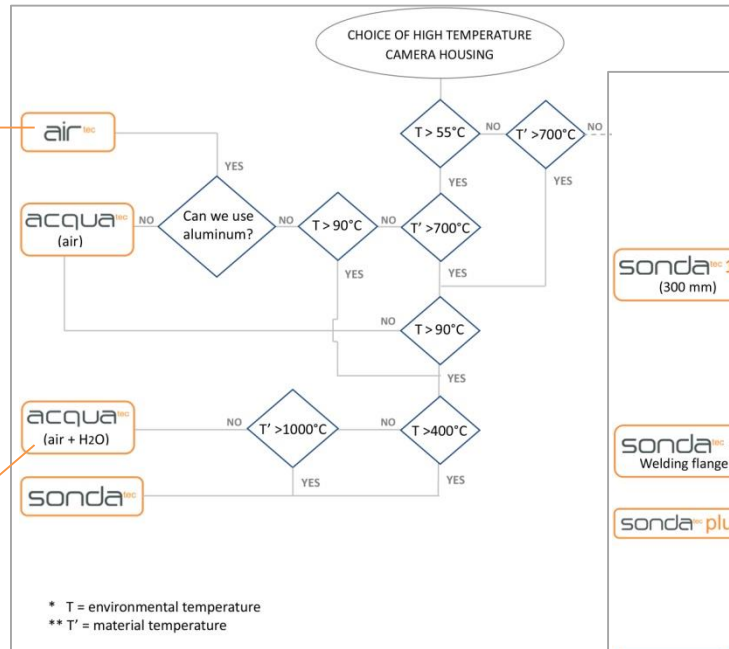


HIGH TEMPERATURE CAMERA SYSTEMS



To be used when enviromental temperature is >55°C.

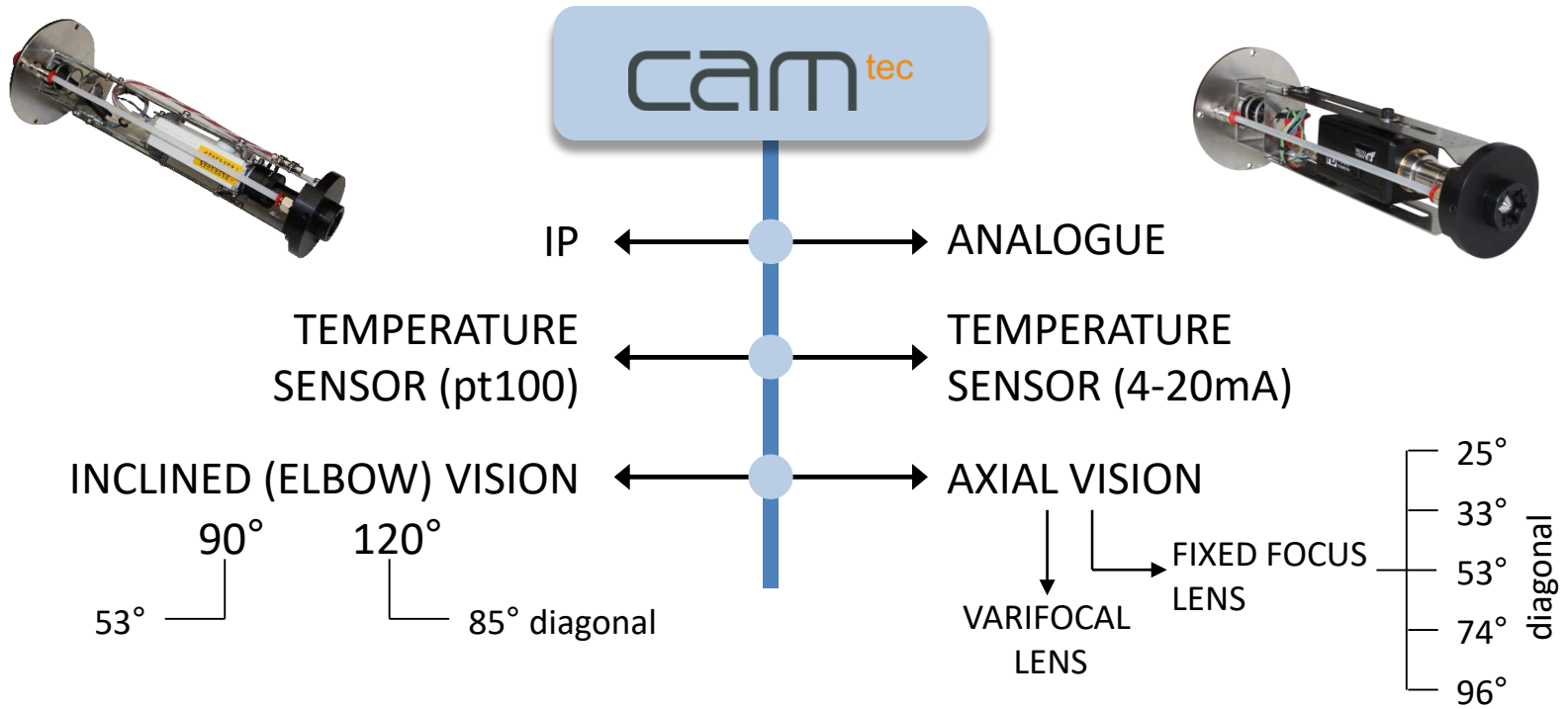
CHOICE OF CAMERA HOUSING



SONDATEC: BASIC SYSTEM COMPONENTS CONFIGURATION



CAMTEC: BASIC SYSTEM COMPONENTS CONFIGURATION



CAMTEC: IP VERSION

FULL
HD

16:9

WEB
CTRL

PoE

MJPEG
MPEG-4
H.264



ADVANTAGES:

- Native network camera based;
- Full HD CMOS image sensor with resolution up to 1920x1080 pixels;
- IR-CUT filter;
- Multi-streaming and multi-encoding;
- Setting, operation and control through browser and camera's web server;



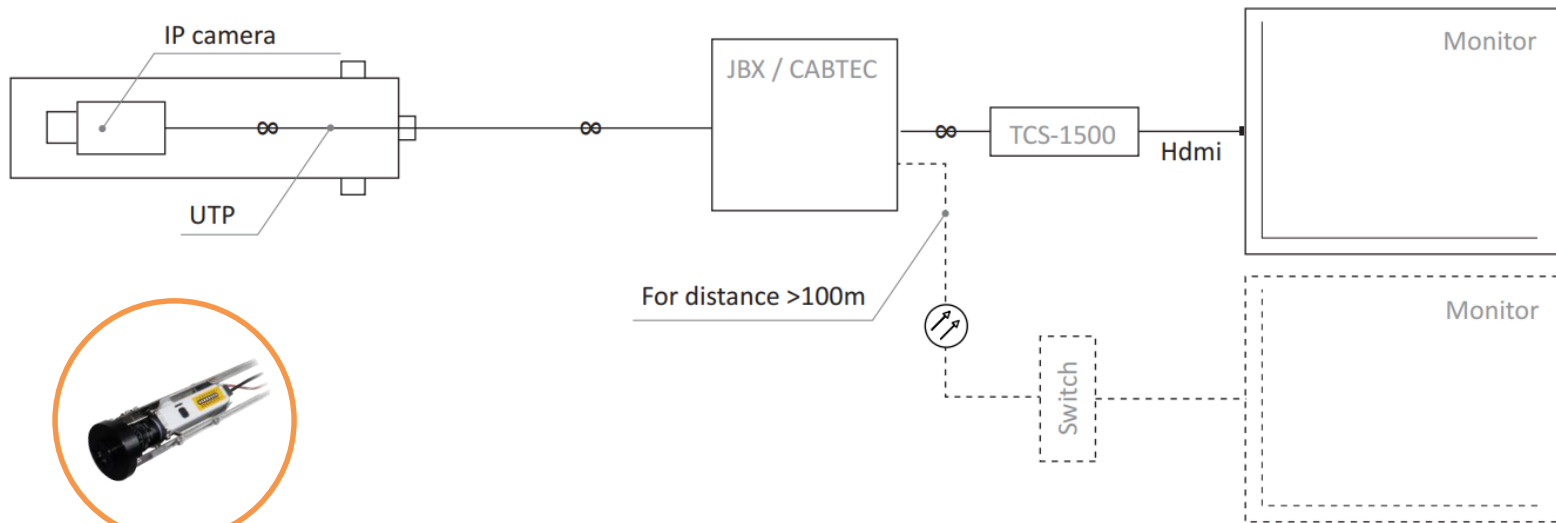
CAMTEC: IP VERSION

Technical Specifications		
SENSOR	Sensor type	1/3" CMOS
	Resolution	Full HD 1920x1080
	Day/Night	Movable IR-cut filter
	Minimum Illumination	Color: 0,65Lux (F1.2/33ms), Day/Night: 0.15Lux (F1.2/33ms)
LENS	Type	DC iris drive
	Focal lens	Various (see the table below)
	Video compression	H.264 (MP); M-JPEG; MPEG-4
	Streaming	Dual streaming for MJPEG, H.264 or MPEG-4; VBR and CBR for MPJEG and MPEG-4; VBR, CBR and CVBR for H.264, multicast and unicast
	Processor	Multimedia video processor, FPGA
	Memory	256MB (RAM), 64MB (Flash)
	Digital Input/Ouput	3 (Configurable)
	Alarm management	Ring buffer for pre and post alarm images, microSDHC card slot for local storage; events triggered by motion detection or external input; image upload over FTP, e-mal or HTTP;
	Protocols	TCP/IP, HTTP, FTP, UDP, ICMP, ARP, DHCP, NTP, RTP, RTSP, RTCP, SMTP, IGMP, Zero Config. QoS Layer 3, SNMP
	Settings	AOIs, Privacy Masks, Text Overlay, Electronic PTZ via AOI (API), Anti-Flicker, 180° Image rotation, Electronic Shutter, White Balance, BLC, Exposure area, Automatic Gain
	Connectors	RJ-45 connector for 10/100 Base-T Ethernet, full or half duplex; 8-pin terminal for DC power; digital I/O; RS-485
POWER	Power Supply	12 to 24 VDC, PoE IEEE802.3af Class 2
	Power Consumption	3.2 W



CAMTEC: IP VERSION

TYPICAL CONNECTION SCHEME:



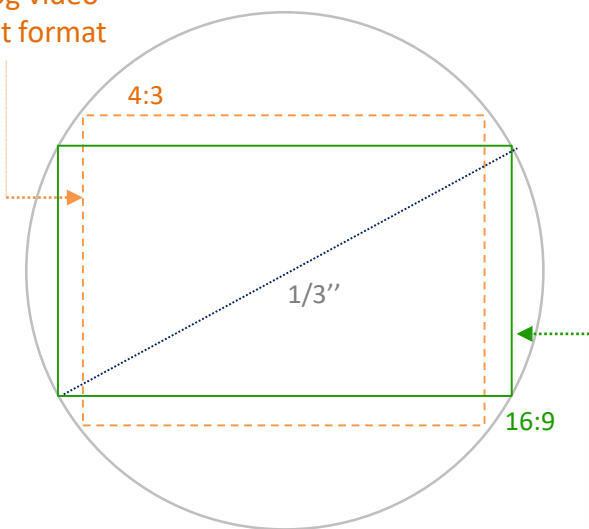
cam^{tec}



COMPARISON OLD ANALOG CAMERA / NEW IP CAMERA

ANGLE OF VIEW: WHAT CHANGES?

Analog video output format



Original format sensor of new IP camera

OLD ANALOG CAMTEC

ANGLE OF VIEW TABLE WITH OLD ANALOG CAMTEC CAMERA, 4:3 ratio

DIAGONAL ANGLE	LENS TYPE	VERTICAL ANGLE	HORIZONTAL ANGLE
94°	2,8 mm	66°	81°
78°	3,6 mm	53°	67°
74°	4 mm	48°	61°
53°	6 mm	33°	44°
33°	10 mm	20°	27°
18°	18 mm	11°	15°
6°	50 mm	4°	5°

NEW IP CAMTEC

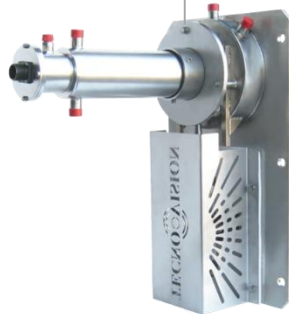
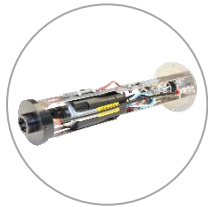
ANGLE OF VIEW TABLE WITH IP CAMTEC CAMERA: 1/3" Sensor, 16:9 ratio

DIAGONAL ANGLE	LENS TYPE	VERTICAL ANGLE	HORIZONTAL ANGLE
94°	2,8 mm	43°	72°
85°	3,3 mm**	38°	65°
78°	3,6 mm	36°	62°
74°	4 mm	31°	56°
53°	6 mm	23°	39°
33°	10 mm	14°	25°
18°	18 mm	7°	13°
6°	50 mm	3°	5°

CAMTEC: IP VERSION

TYPICAL SYSTEM CONFIGURATION:

IP based
high temperature camera



Control cabinet

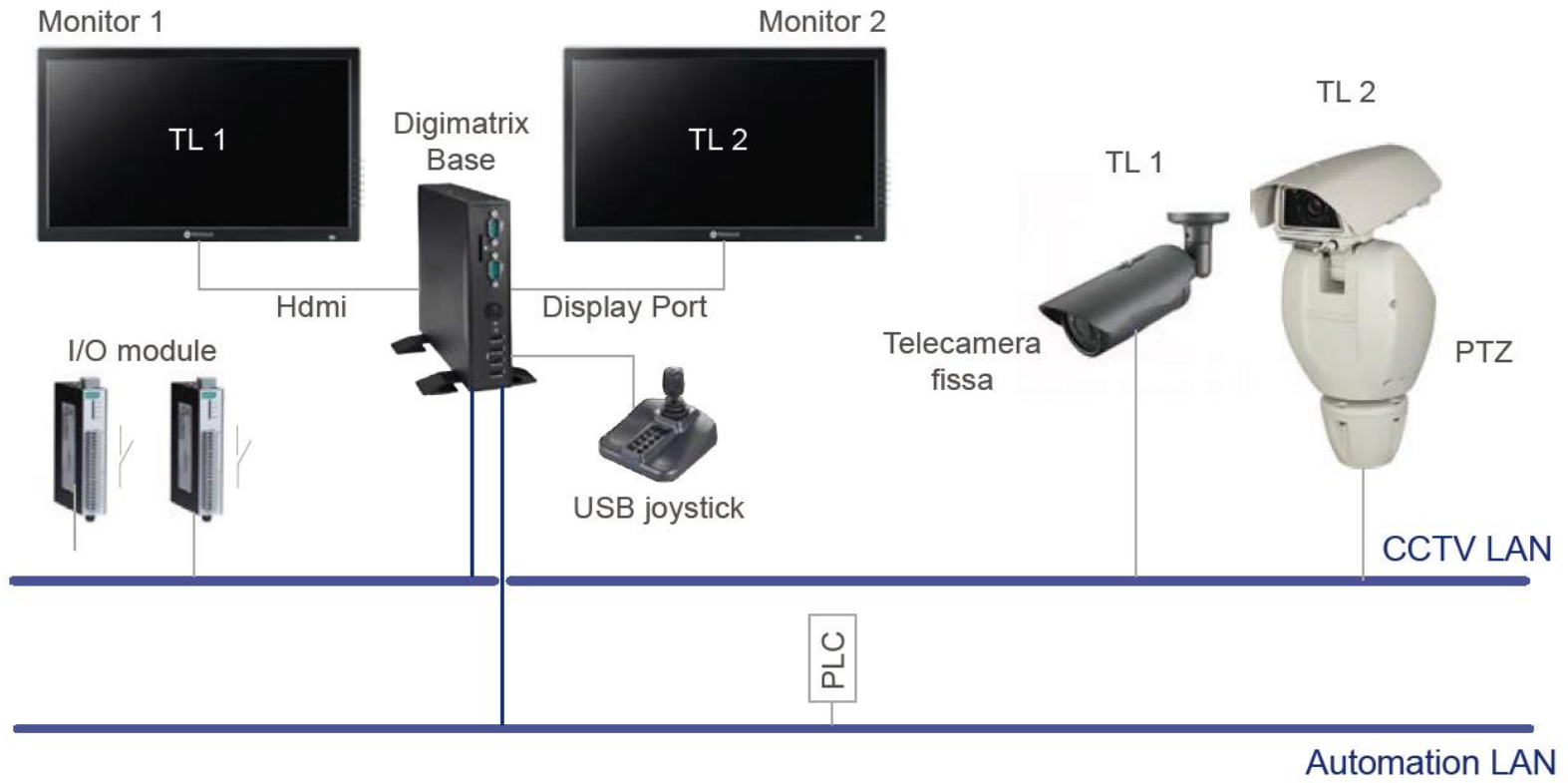


Decoder:
Ethernet signal to HDMI



CAMTEC: IP VERSION

TYPICAL SYSTEM CONFIGURATION:



CAMTEC: IP VERSION

DIGIMATRIX BASE



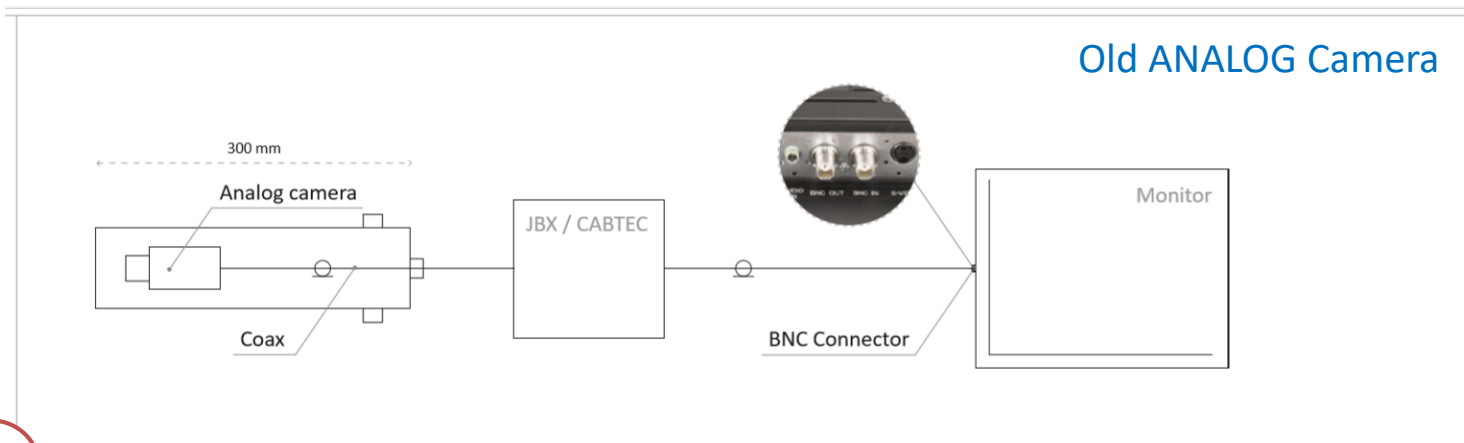
Digimatrix Shuttle BASE version is a **digital video embedded matrix able to display and manage small CCTV systems**, based on **TICP/IP technology**.

- Possibility to manage video streaming of n.2 IP or analogue cameras connected to video encoder or 2 video streaming coming from remote HDMI output device

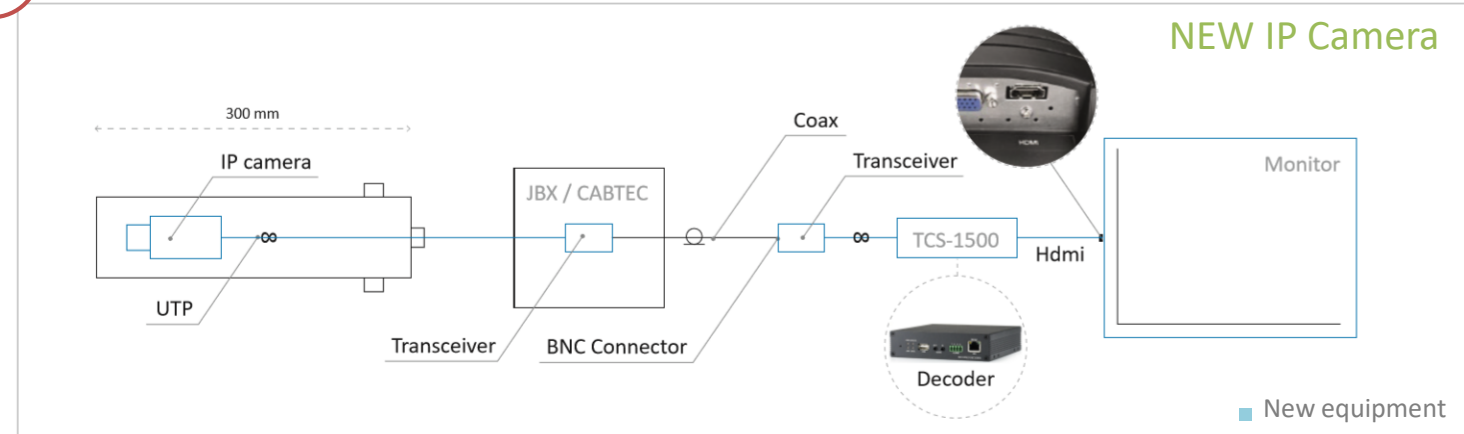


CAMTEC: IP TO ANALOG FOR REPLACE THE EXISTING SYSTEM

HOW TO REPLACE AN OLD ANALOG CAMERA WITH THE NEW IP TECHNOLOGY?

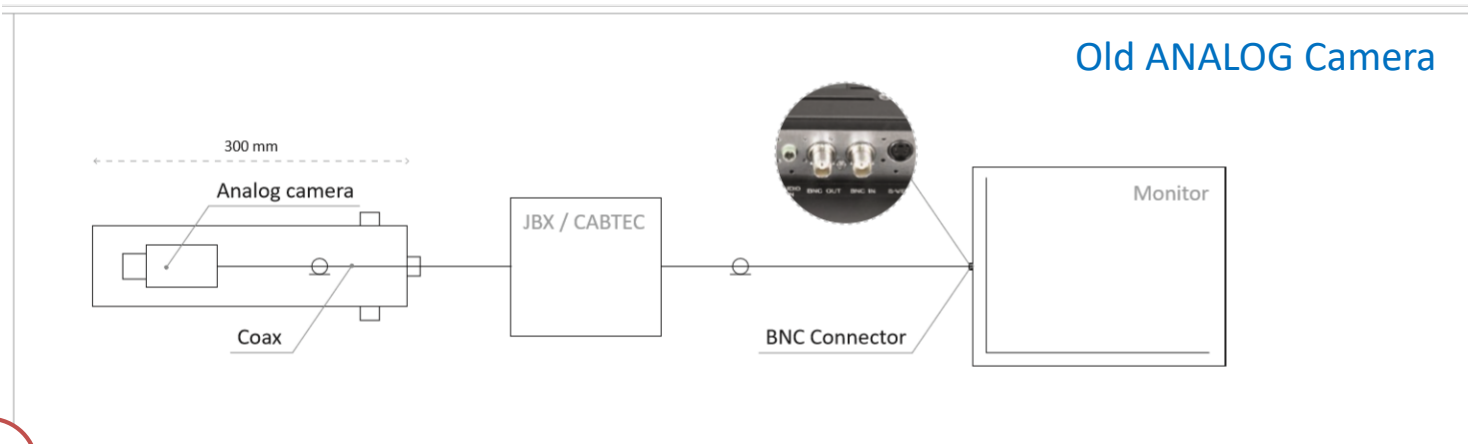


1 NEW IP Camera + a couple of Ethernet over Coax media converter in order to save the existing wiring (Coax)



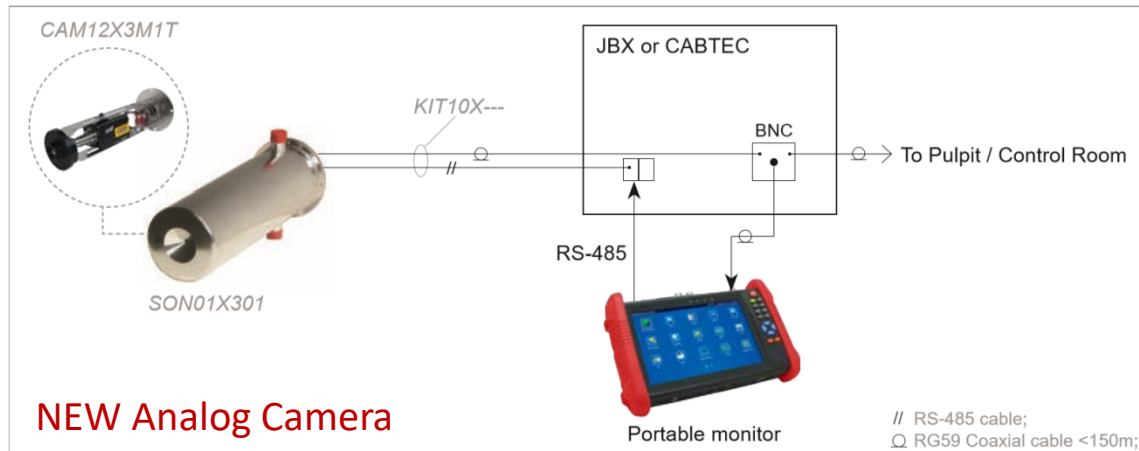
CAMTEC: IP TO ANALOG FOR REPLACE THE EXISTING SYSTEM

HOW TO REPLACE AN OLD ANALOG CAMERA WITH THE NEW IP TECHNOLOGY?



2

New version of analog camera (suitable for Sondatec 1,0 model).



CAMTEC: ANALOG VERSION

1000 HTVL

4:3

OSD support

HD-SDI

MJPEG
MPEG-4
H.264



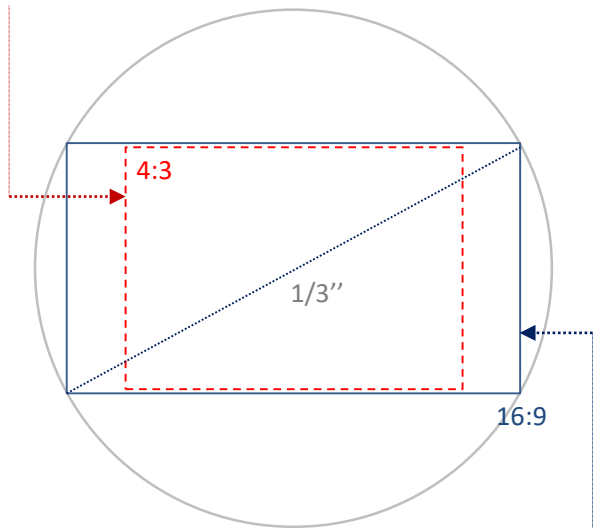
Technical Specifications		
GENERAL	Sensor	1/3" 2.1 MP CMOS WDR Sensor
	Effective Pixels	1944(H) x 1092(V)
	Resolution	Over 1000 HTVL
	Minimum Illumination	0.05 Lux @ AGC on / Sens-up off / F1.2 Color to B/W
	S/N Ratio	48 dB (Typ) (Gamma, Aperture, AGC OFF)
	Lens	Manual / High temperature
	ICR-Set Control	Auto, trigger-in for Low Light vision
	Video out (dual)	CVBS 4:3 ratio
	Digital Zoom	1.0 ~ 16.0
FUNCTIONS	Main Functions	Brightness / Sens-up / Eclipse / BLC / WDR / White Balance, etc.
	Gain Control	Auto
	Exposure Control	Auto, Manual, IRIS priority
	DNR Control	Off / Low / Middle / High
	Gamma Correction	0.45 / 0.55 / 0.65 / 0.75
INPUT / OUTPUT	Protocol	RS-485
POWER	Power supply	12 VDC ±1V
	Consumption	220mA
ENVIRONMENTAL	Operating Temperature	-10°C ~ +55°C
	Humidity	within 85% RH



COMPARISON OLD / NEW ANALOG CAMTEC CAMERA

ANGLE OF VIEW: WHAT CHANGES?

Analog video output format cropped as previous model



Original format sensor of the new camera

OLD ANALOG CAMTEC

ANGLE OF VIEW TABLE WITH OLD ANALOG CAMTEC CAMERA, 4:3 ratio			
DIAGONAL ANGLE	LENS TYPE	VERTICAL ANGLE	HORIZONTAL ANGLE
94°	2,8 mm	66°	81°
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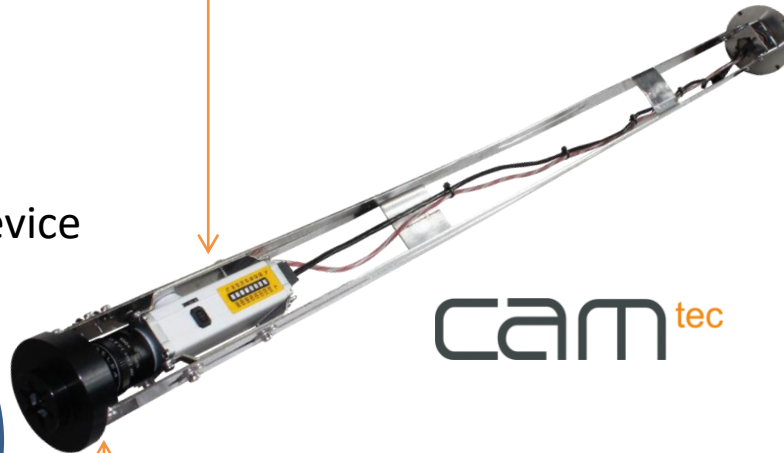
NEW ANALOG CAMTEC

ANGLE OF VIEW TABLE WITH NEW ANALOG CAMERA (CAM12X-M--)			
DIAGONAL ANGLE	LENS TYPE	VERTICAL ANGLE	HORIZONTAL ANGLE
94°	2,8 mm	50°	62°
78°	3,6 mm	42°	60°
74°	4 mm	35°	48°
53°	6 mm	24°	32°
33°	10 mm	16°	21°
18°	18 mm	9°	11°
6°	50 mm	3°	4°



CAMTEC: MAIN FEATURES

- Camera sensor with special feature for high contrasts and strong radiation
- Easy fit all in one device



- MIL Std. multipolar connector

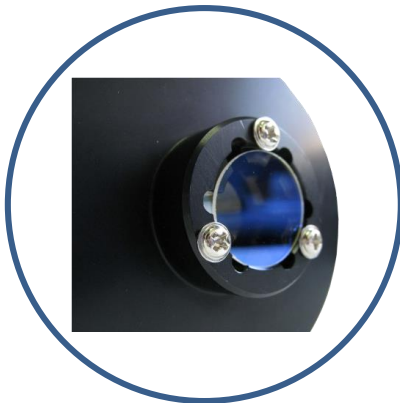
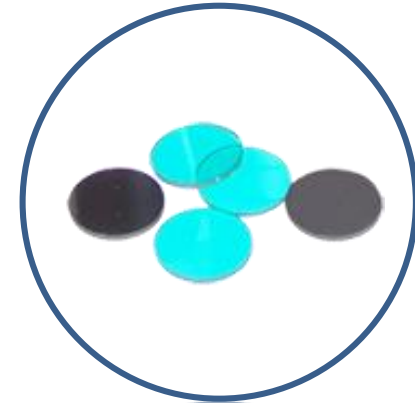


- Optical lens with aperture <math>< 3\text{mm}</math> diameter



CAMTEC: ACCESSORIES

Optical infrared glass filters, NG9, BG12, BG18
For high light level application i.e
(glass furnace, VOD)



High temperature sapphire glass lens protection
For very dust environments
(melth shop)



CAMTEC: ACCESSORIES

Aware of the difficulties and of the critical urgencies that characterize industrial environments, the settings, operation and control of the cameras can be easily done from a Touch screen 7" portable monitor with DVR function for IP, CVBS signals.

Commands for RS-485 serial lines

Suitable for the calibration, control and focusing of a camera connected directly to the apparatus



Supports Wifi and Bluetooth connections. Supports PTZ (ONVIF) management, OSD menu.

Video recording, snapshot, saving and playback



SONDATEC: MAIN FEATURES

- Water cooling circuit made with three jackets



sonda^{tec}

- Air pressurized for protection and lens cleaning

















- Housing made with different types of Stainless Steel



- Employment of industrial parts

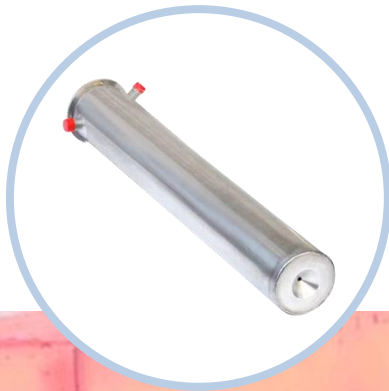


STEELS CHARACTERISTICS

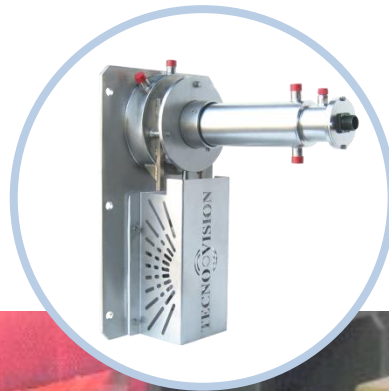
S/C	Costs	Oxygen corrosion	Acid corrosion	High temperature
AISI304				
AISI310				
AISI316				
HASTELLOY C276				

ON FURNACE /BOILER APPLICATION

FIXED INSIDE TYPE



EXTERNAL WALL MOUNTED

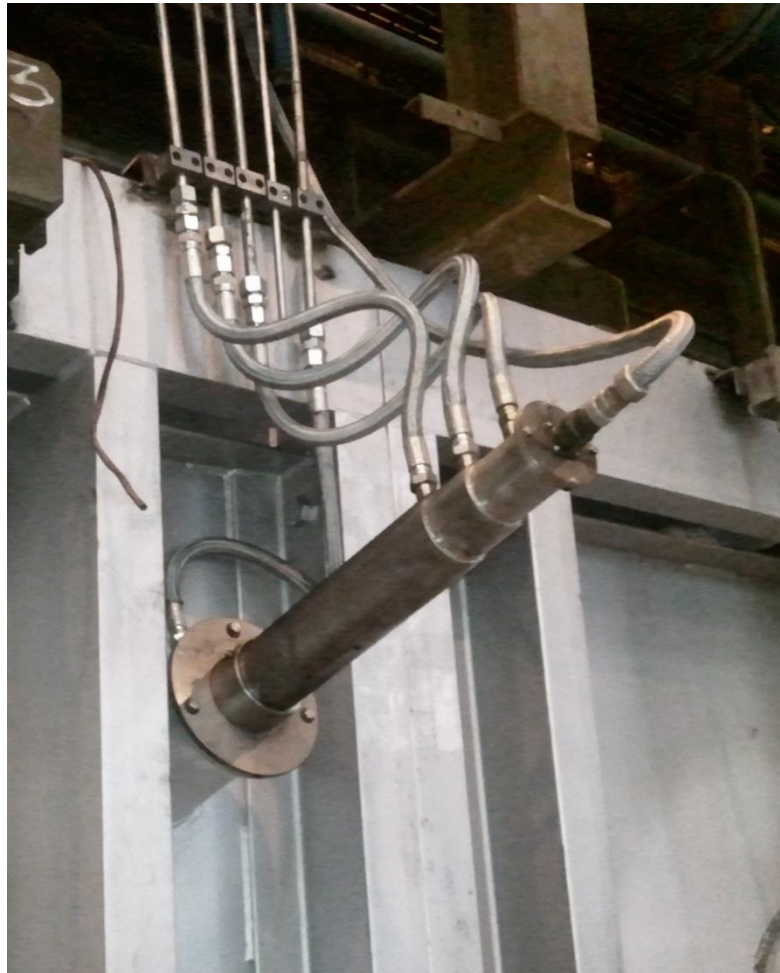


INSIDE TYPE WITH
RETRACTION DEVICE



EXAMPLES OF INSTALLATION

FIXED INSIDE TYPE



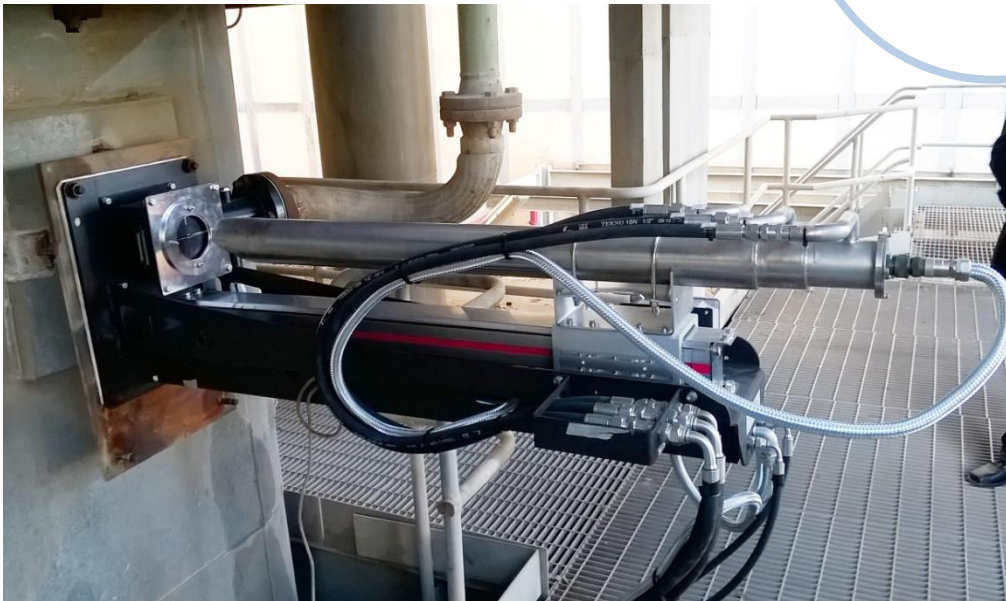
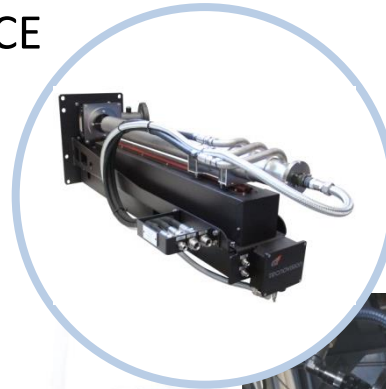
EXAMPLES OF INSTALLATION

EXTERNAL WALL MOUNTED

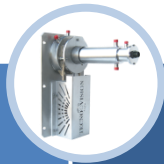


EXAMPLES OF INSTALLATION

INSIDE TYPE WITH RETRACTION DEVICE

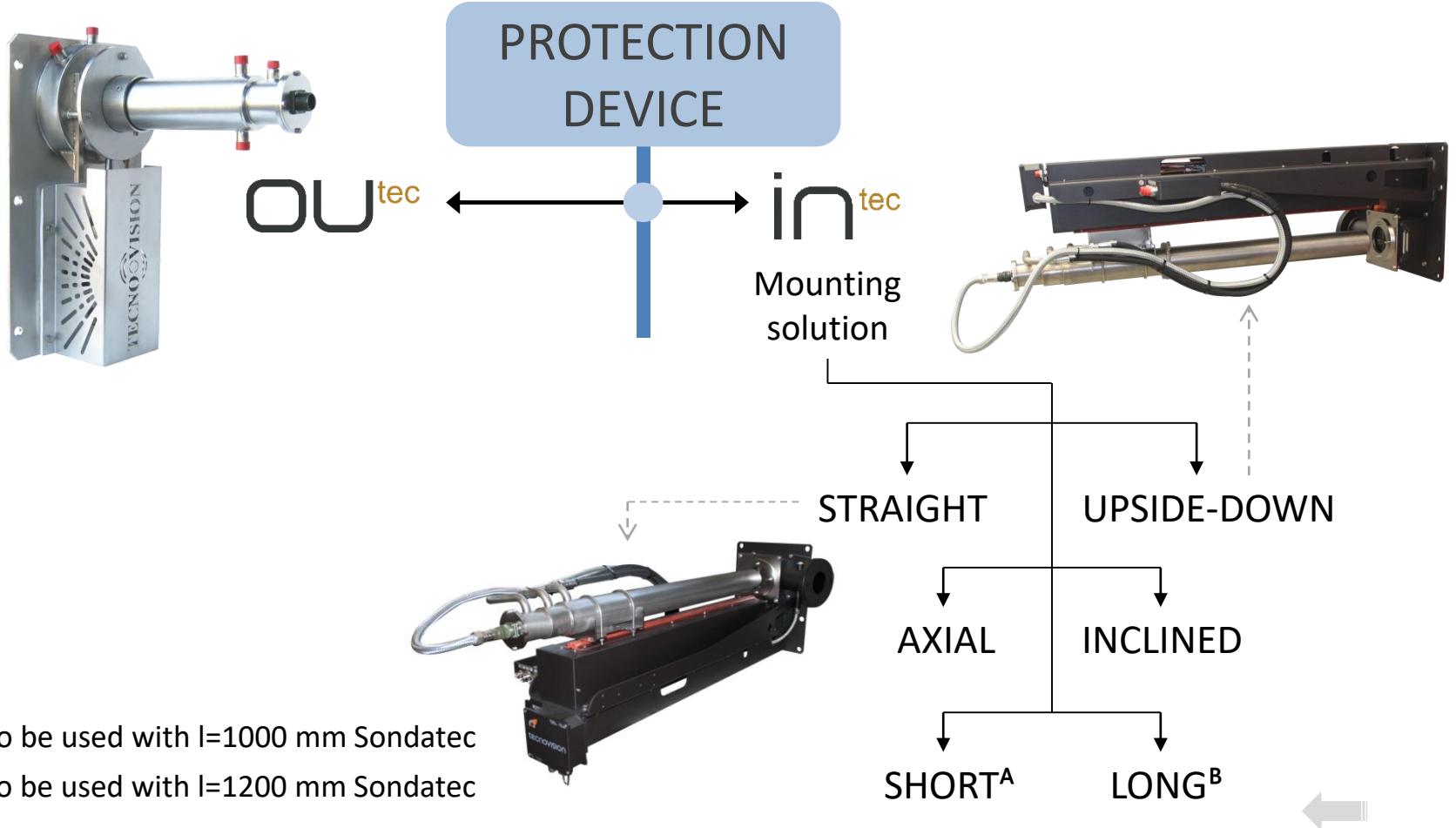


ADVANTAGES & DISADVANTAGES



	FIXED INSIDE TYPE	EXTERNAL WALL MOUNTED	INSIDE TYPE WITH RETRACTION DEVICE
LOW COST	X		
SELF PROTECTED		X	X
AXIAL HOLE REQUIRED	X		X
WIDE ANGLE OF VIEW AVAILABLE	X		X
MORE EXPENSIVE			X
NOT PROTECTED	X		
CONICAL HOLE REQUIRED		X	

ADVANCED COMPONENTS

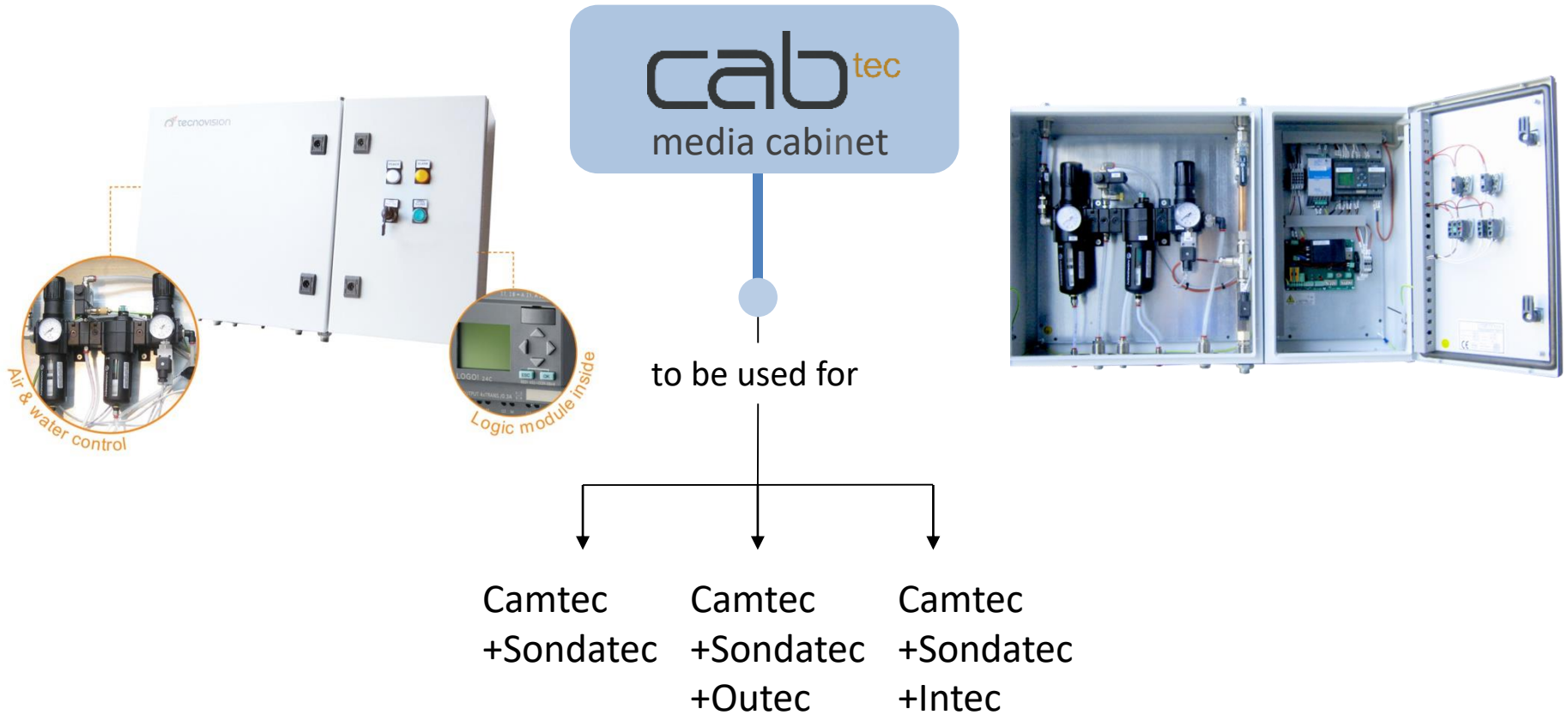


A: to be used with l=1000 mm Sondatec

B: to be used with l=1200 mm Sondatec



ADVANCED COMPONENTS



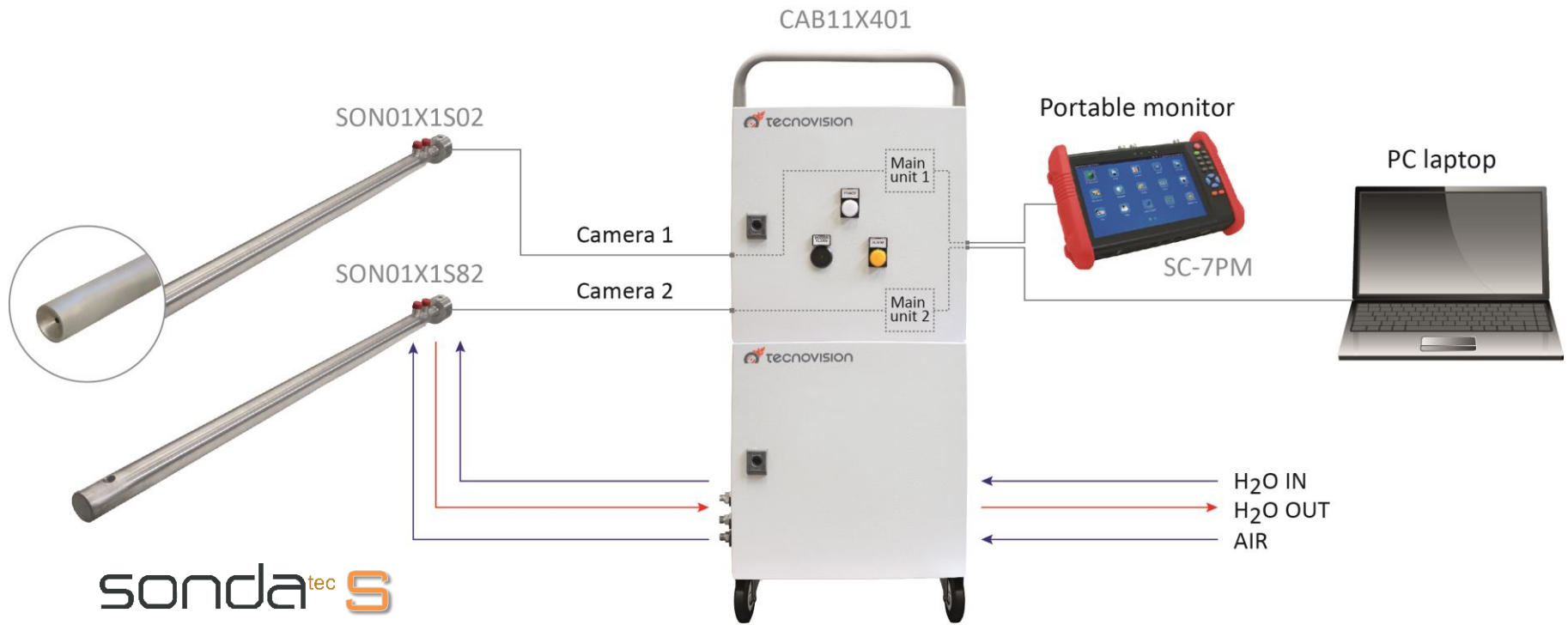
CODES TABLE OF CONTROL CABINETS

cabtec

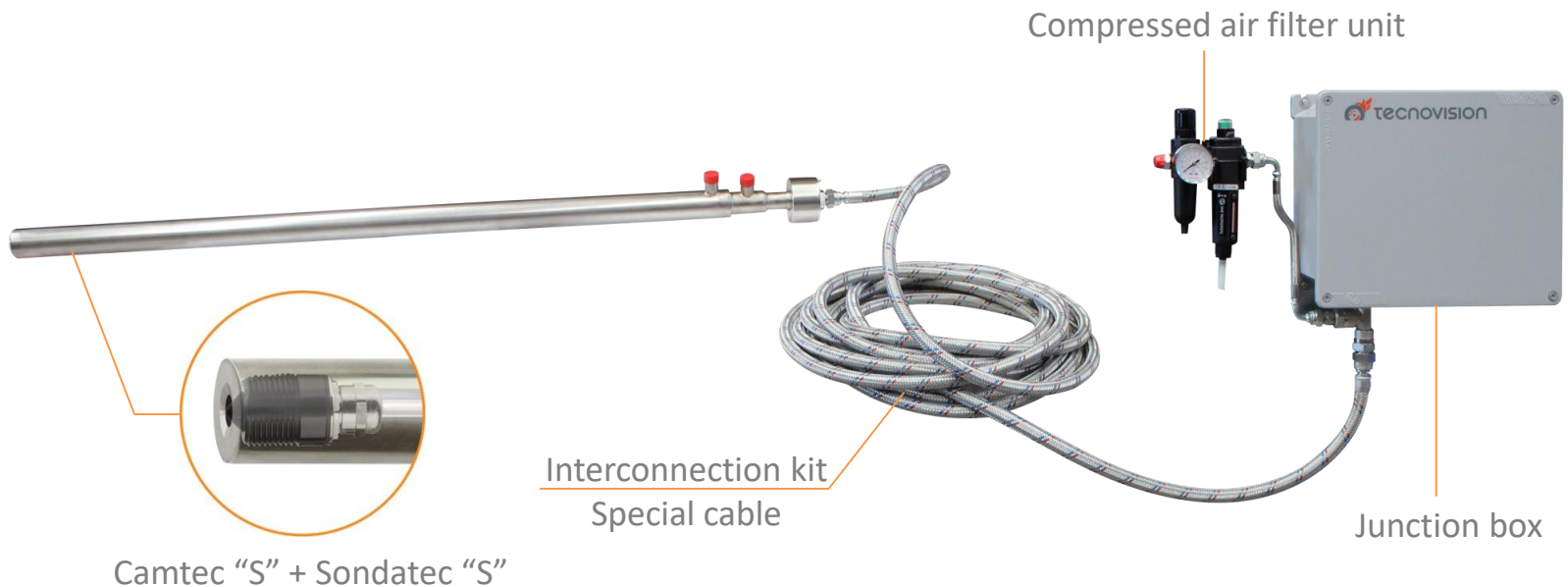
		PRESSURE REGULATOR WITH GAGE	DUAL PRESSURE REGULATOR WITH TWO GAGES	TWO STAGES AIR FILTER	AIR / N ₂ FLOW METER WITH FLOW REGULATOR	PRESSURE AIR SWITCH	2 WAY ELECTROVALVE	5 WAY ELECTROVALVE	H ₂ O FLOW SWITCH (ON/OFF)	H ₂ O FLOW SWITCH WITH VISIBLE LEVEL (ON/OFF)	H ₂ O FLOW METER (WITHOUT DISPLAY)	H ₂ O FLOW METER (WITH DISPLAY)	H ₂ O THERMOSTAT	H ₂ O TEMPERATURE SENSOR (PT100 / PT1000)	H ₂ O TEMPERATURE SENSOR (4-20 mA)	CABINET HEATER	CAMERA TEMPERATURE SENSOR MANAGEMENT	INTEC OBLO' TEMPERATURE SENSOR MANAGEMENT	DIGITAL LOGIC MODULE WITH DISPLAY / ETHERNET	2 IN ANALOGUE EXPANSION MODULE	FURTHER 2 IN ANALOGUE EXPANSION MODULE	ADDITIONAL INPUT / RELAY MODULE	OSD MODULE	CAMERA MAIN UNIT	
OUTEC	CAB11X100L		X	X		X	X		X				X						X						
	GAB11X100A		X	X		X	X		X					X					X	X					
	GAB11X100B		X	X		X	X		X					X					X	X		X	X		
	CAB11X101A		X	X		X	X				X			X					X	X					
	CAB11X101B		X	X		X	X				X			X					X	X		X	X		
	CAB11X101C		X	X		X	X					X		X					X	X		X	X		
	CAB11X101D		X	X		X	X				X			X					X	X		X	X		
	GAB11X102D		X	X		X	X		X						X				X	X		X	X		
	CAB11X102E		X	X		X	X		X						X				X	X		X	X		
	CAB11X103E		X	X		X	X		X						X				X	X		X	X		
CAB11X104E		X	X		X	X					2	2													
INTEC	CAB11X200L		X	X		X		X		X			X						X						
	GAB11X201A		X	X		X		X		X				X					X	X					
	GAB11X201D		X	X		X		X		X				X					X	X		X	X		
	CAB11X202A		X	X		X		X			X			X					X	X		X	X		
	CAB11X202B		X	X		X		X			X			X					X	X		X	X		
	CAB11X202C		X	X		X		X			X			X					X	X		X	X		
	CAB11X202D		X	X		X		X			X			X					X	X		X	X		
	CAB11X202E											X							X	X		X	X		
	CAB11X292G		X	X		X		X			X				X				X	X		X	X		
	CAB11X203A		X	X		X		X			X				X				X	X		X	X		
	CAB11X203D		X	X		X		X			X				X				X	X		X	X		
	CAB11X203L		X	X		X		X			X				X				X	X		X	X		
	SONDATEC	CAB11X300B																		X	X		X	X	
GAB11X301A		X		X		X			X					X					X	X		X	X		
GAB11X301B		X		X		X			X					X					X	X		X	X		
CAB11X302B		X		X		X	X							X					X	X		X	X		
CAB11X303E		X		X		X			X					X					X	X		X	X		
CAB11X304B		X		X		X					X			X					X	X		X	X		
CAB11X304E			X	X		2					X			X					X	X		X	X		
CAB11X305F											2				2				X	X		2	X	X	
CAB11X306A		X		X		X					X			X					X	X		X	X		
CAB11X306B		X		X		X					X			X					X	X		X	X		
CAB11X306E		X		X		X					X			X					X	X		X	X		
CAB11X307A		X		X							X			X					X	X		X	X		
CAB11X310E		X			X						X				X					X	X		X	X	
CAB11X320E					X						X				X					X	X		X	X	
CAB11X388H		2		2		2													2	X	X				
CAB11X392G			X	X		2		X				2			2				X	X		X	X		
PORTABLE SOLUTION		CAB11X400A	X		X		X					X			X				X	X				X	
CAB11X401A	X		X		X					X				X				X	X				2		

PORTABLE SOLUTION: "S" SERIES

Telea Tecnovision has developed a portable system ideal for mobile inspection in high temperature environments.



“S” SERIES: BASIC SYSTEM COMPONENTS CONFIGURATION



“S” SERIES

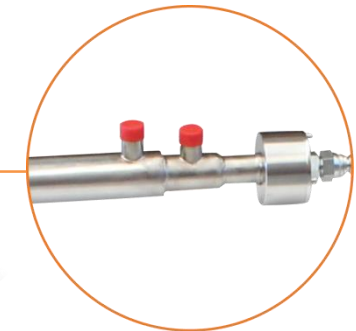
- HD ready 1280x720p

cam^{tec} S



- 6mm air pressurized aperture

sonda^{tec} S



- Water cooling circuit made with three jackets

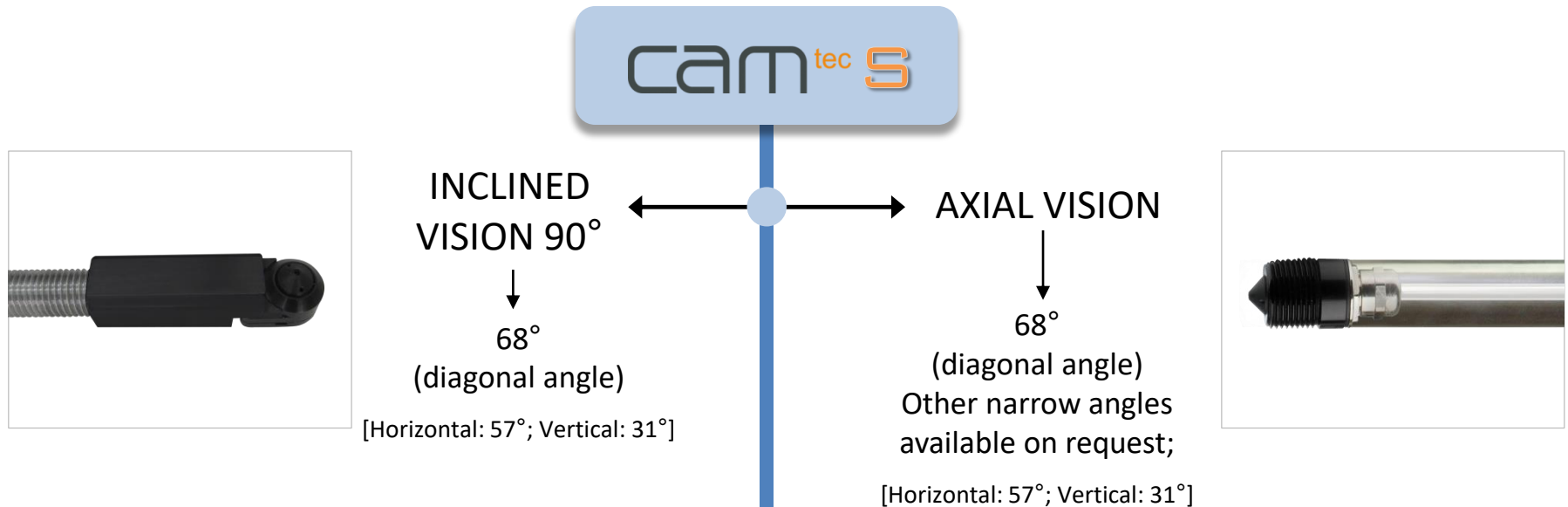
- Housing made of SS316L



- Easy fit all in one camera device



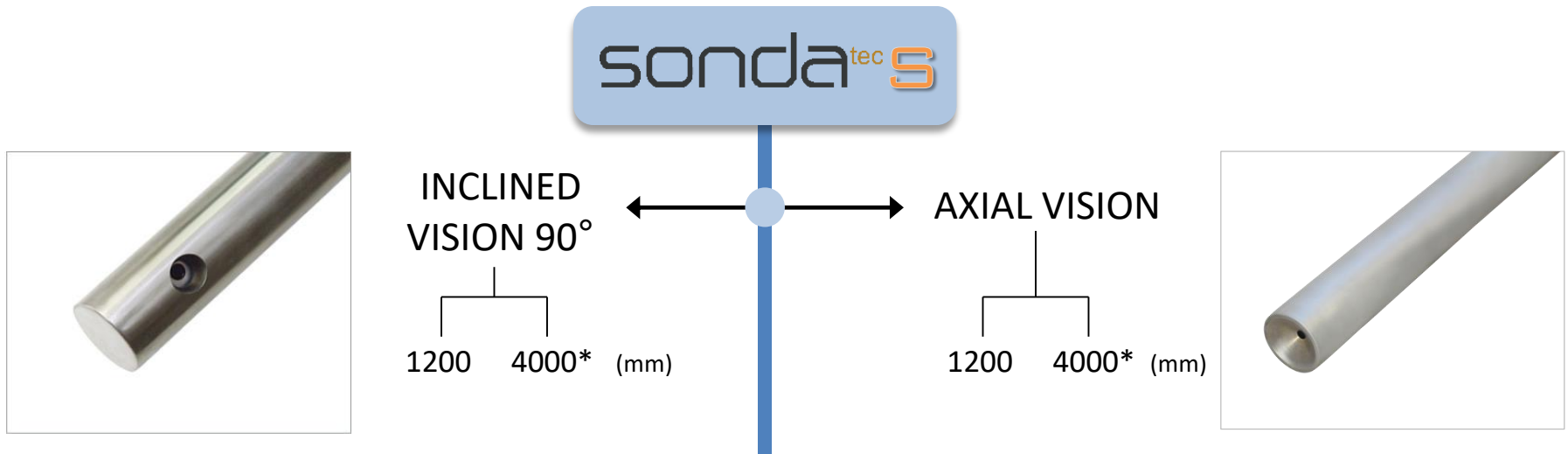
CAMTEC: "S" SERIES CONFIGURATION



- HD resolution IP camera
- Length = 1200mm (Other on request)
 - Temperature Sensor (PT100)
- Requires main control unit supplied in separate JBX or Cabinet (CABTEC)



SONDATEC: "S" SERIES CONFIGURATION



- Diameter = 45mm
- Air & Water cooling system
- Light weight

"S" series has been developed for all applications that require a small entrance diameter. Thanks to this feature it is also ideal for mobile inspections.

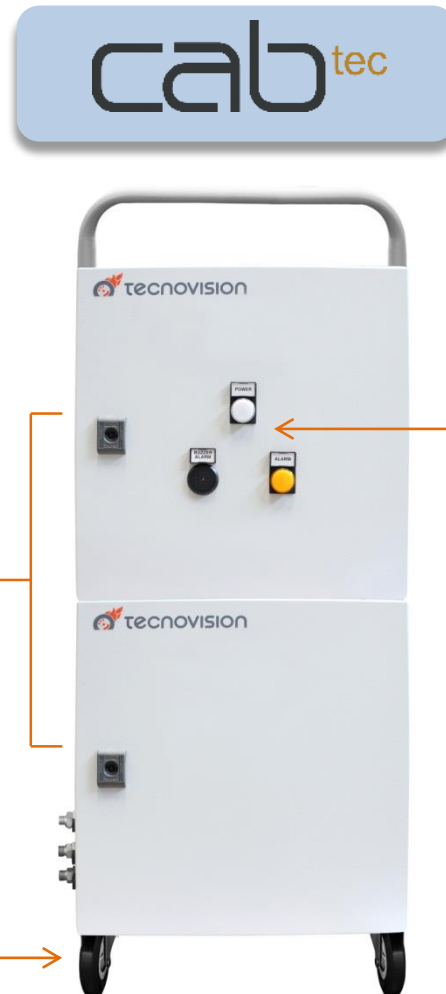


CABTEC: "S" SERIES CONFIGURATION

cabtec

- Hydraulic, pneumatic and electrical controls in two segregated units

- Special trolley for easy movements and mobile inspections



- Alarm control for camera's over temperature
- Alarms status on LCD display on cabinet

- Main unit of control camera
- Temperature camera sensor management



AIRTEC: MAIN FEATURES



Air cooled pressurized housing

Usefull for Analogue camera, IP camera, Infrared camera

Up to 90°C



AIRTEC: BASIC SYSTEM COMPONENTS CONFIGURATION



1.0



2.0

• AIR COOLED + AIR BARRIER

• WINDOW:

Flat glass | Convex glass | Germanium | without window
 Ø30 mm | Ø55 mm

• POWER SUPPLY:

230Vac | 12Vdc/24Vac | PoE+ | Ø



AIRTEC: BASIC SYSTEM COMPONENTS CONFIGURATION

air^{tec}



A Length

- 3 = 300 mm
- 5 = 350 mm

B Power Supply

- 0 = 230Vac
- 2 = 12Vdc / 24Vac
- 3 = PoE
- 9 = Ø

C Window

- 0 = Flat Glass
- 1 = Convex Glass
- 3 = Germanium (30Ø usable)
- 5 = Germanium (55Ø usable)
- 9 = without window

ACQUATEC: MAIN FEATURES

acqua^{tec}



Air or Air&Water cooled pressurized housing

Usefull for Analogue or IP camera,
Infrared camera and various instrumentation

Up to 400°C



ACQUATEC: BASIC SYSTEM COMPONENTS CONFIGURATION

acqua^{tec}

1.0



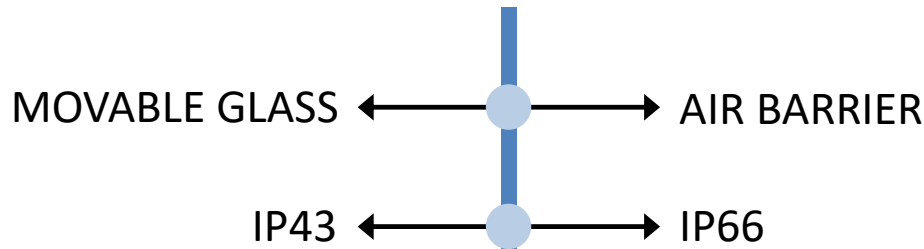
2.0

• OPERATING TEMPERATURE UP TO:

90° ┘ └ 400°

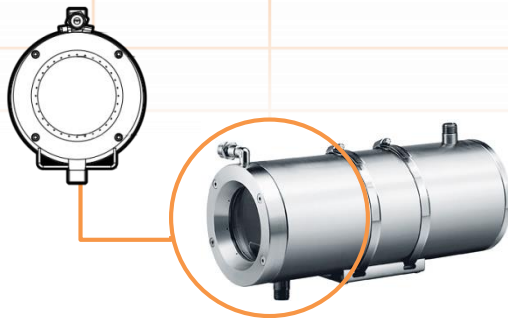
• COOLING:

AIR + H2O | ONLY AIR | ONLY H2O | NO COOLING

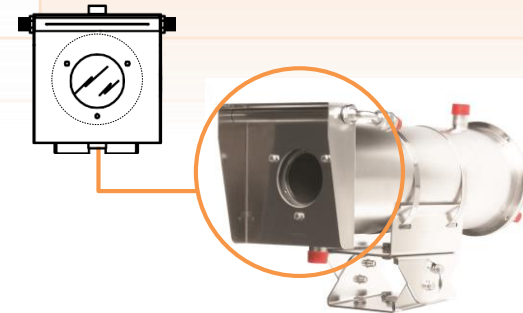


ACQUATEC: BENCHMARK

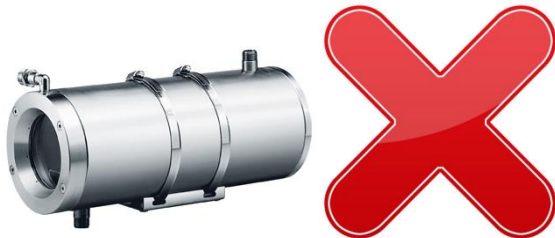
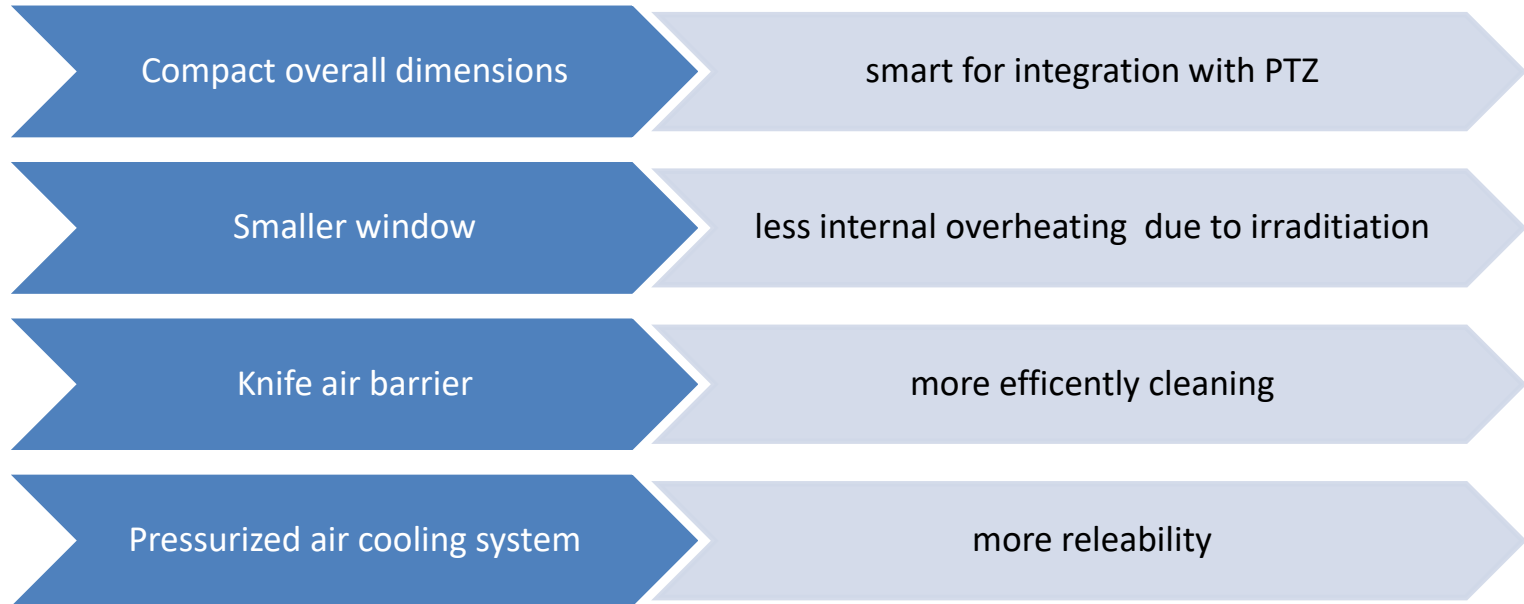
Compare products	Competitors			
	Videotec	Tecnosystem	Global proof	TELEA TECNOVISION
External Ø	164 mm	168 mm	168 mm	129 mm
Window Ø	95 mm	97 mm	97 mm	55 mm
Air pressurized	No	No	No	Yes
Window Cleaning	Holes	Holes	Holes	Knife Air



Example of similar product



ACQUATEC: ADVANTAGES



NEW PROJECTS UNDER DEVELOPMENT

sonda^{tec} P

- Only Air cooled
- Lower diameter: 50mm only

Q217

sonda^{tec} G

- Only Air cooled
- Lower diameter: <30mm only
- Low cost solution for Glass market

Q317

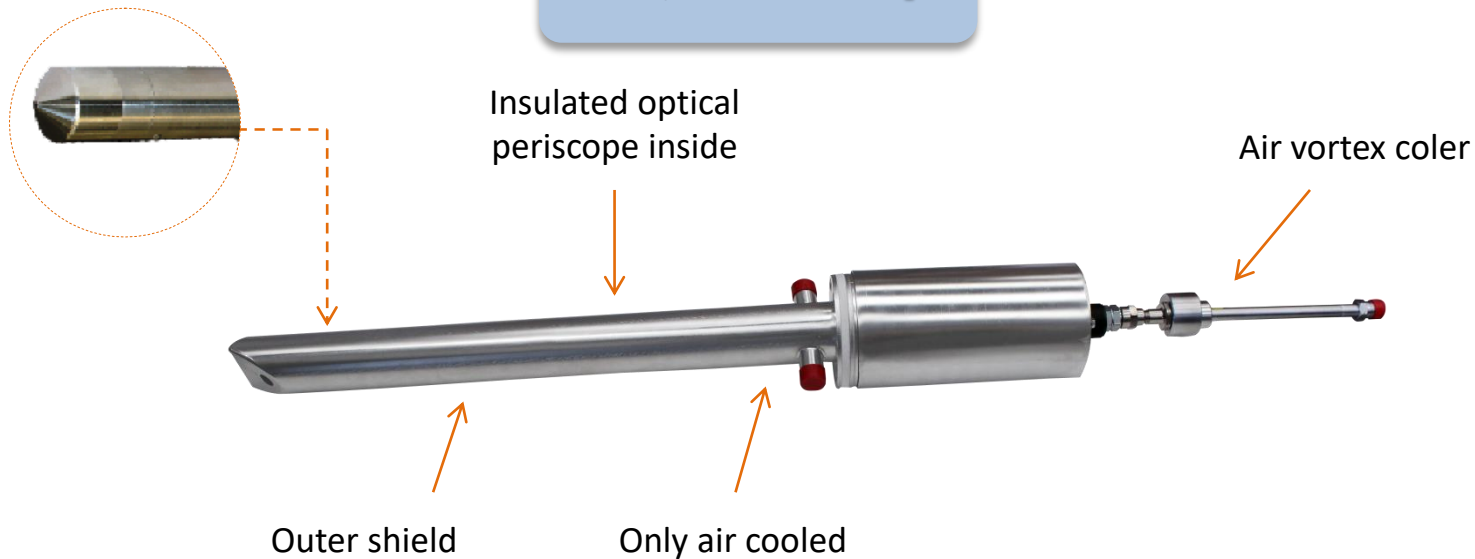
in^{tec} SLIM

- Protection device with retraction system
- Slim version

Q118

SONDATEC: "P" SERIES CONFIGURATION

sonda^{tec} P



- Diameter = 50 mm
- Full Air cooling solution

PRE-SALE ENGINEERING ASSISTANCE

- Support on wall & refractory preparing activity
- Sketch of mounting system
- Locating camera on furnace

