



CATALOGUE

**PIPE**

**INSPECTION**

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**JBP COMPOSITES S.L.**

# PIPE INSPECTION

## / Carriage systems



### RITEC FW 90 L Axial

#### Description and technical details:

##### Robot

- Axial camera RI 4035 VB FW
- Steerable carriage with 6 driven wheels D 63
- Inclination sensor, display on monitor
- Lateral inclination sensor for automatic position adjustment
- Additional wheels D 53 and D 73
- Pressure sensor with pressure drop alarm function
- Strain relief
- Lowering hook



##### Axial camera RI 4035 VB FW

- Axial camera  $\varnothing$  40 mm
- Automatic self leveling picture
- High-performance LED light
- Fixed focus
- Angle of view diagonal 104°

# PIPE INSPECTION

## / Carriage systems



### RITEC FW 90 L Basic

#### Description and technical details:

##### Robot

- Axial camera RI 4035 VB FW
- Steerable carriage with 6 driven wheels D 63
- Inclination sensor, display on monitor
- Lateral inclination sensor for automatic position adjustment
- Additional wheels D 53 and D 73
- Pressure sensor with pressure drop alarm function
- Strain relief
- Lowering hook



##### Pan & tilt camera RI 78 FW

- Pan & tilt camera  $\varnothing$  78 mm
- Pan angle:  $\pm 130^\circ$
- Pan angle incl. viewing range  $\pm 158^\circ$
- Endless rotation
- Slip clutch in rotation axis
- Automatic aperture control
- Automatic self leveling picture (can be disabled)
- Camera head zero setting with selectable remote focusing
- Pan axis supported on both sides
- Electric focusing
- High-performance LED light with separate light control for close-up and remote areas
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Two-point laser
- 3 x digital zoom
- Macros for moving along sleeves
- $90^\circ$  pan position left/right
- The camera RI 78 FW can also be used as a push camera together with a 19" control unit.

# PIPE INSPECTION

## / Carriage systems



### RITEC FW 90 L Option

#### Description and technical details:

##### Robot

- DN 100 - DN 600 (in conjunction with FW 90 L base)
- Wheel distance multi for additional wheels
- Mechanical infinitely variable height adjustment with rapid closure and slip clutch
- Additional lights

##### Accessorios

- Locating transmitter
- Rear view camera (switchable)
- Additional weights



##### Pan & tilt camera RI 78 FW

- Pan & tilt camera  $\varnothing$  78 mm
- Pan angle:  $\pm 130^\circ$
- Pan angle incl. viewing range  $\pm 158^\circ$
- Endless rotation
- Slip clutch in rotation axis
- Automatic aperture control
- Automatic self leveling picture (can be disabled)
- Camera head zero setting with selectable remote focusing
- Pan axis supported on both sides
- Electric focusing
- High-performance LED light with separate light control for close-up and remote areas
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Two-point laser
- 3 x digital zoom
- Macros for moving along sleeves
- $90^\circ$  pan position left/right
- The camera RI 78 FW can also be used as a push camera together with a 19" control unit.

# PIPE INSPECTION

## / Carriage systems



### RITEC FW 150 L Basic

#### Description and technical details:

##### Robot

- Steerable carriage with 8 driven wheels
- Inclination sensor, display on monitor
- Lateral inclination sensor for automatic position adjustment
- Electric infinitely variable height adjustment with slip clutch
- Additional lights
- Additional wheels D 160 and D 96 multi
- Pressure sensor with pressure drop alarm function
- Strain relief
- Lowering hook

##### Accessories

- Additional lights
- Additional wheels D 96 multi
- Additional wheels D 160
- Protective caps



##### Pan & tilt camera RI 78 FW

- Pan & tilt camera  $\varnothing$  78 mm
- Pan angle:  $\pm 130^\circ$
- Pan angle incl. viewing range  $\pm 158^\circ$
- Endless rotation
- Slip clutch in rotation axis
- Automatic aperture control
- Automatic self leveling picture (can be disabled)
- Camera head zero setting with selectable remote focusing
- Pan axis supported on both sides
- Electric focusing
- High-performance LED light with separate light control for close-up and remote areas
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Two-point laser
- 3 x digital zoom
- Macros for moving along sleeves
- $90^\circ$  pan position left/right
- The camera RI 78 FW can also be used as a push camera together with a 19" control unit.

# PIPE INSPECTION

## / Carriage systems



### RITEC FW 150 L Option

#### Description and technical details:

##### Robot

- DN 150 - DN 1200 (in conjunction with FW 150 L base)
- Additional lights
- Additional wheels D 220 with gear sets



##### Pan & tilt camera RI 106 FW

- Pan angle  $\pm 131^\circ$
- Pan angle incl. viewing range  $\pm 157^\circ$
- Endless rotation
- Slip clutch in rotation and pan axis
- Automatic and manual aperture control
- Automatic self leveling picture (can be disabled)
- Camera head zero setting with selectable remote focusing
- Pan axis supported on both sides
- High-performance LED light with separate light control for close-up and remote areas
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Two-point laser
- Automatic and manual aperture control
- 12x optical and 12x digital zoom
- Macros for moving along sleeves
- $90^\circ$  pan position left/right

# PIPE INSPECTION

## / Push cameras



### RITEC RiCubio S

#### Description and technical details:

##### System

- Max. length of cable: 30 m
- Compact system
- 30 m push cable,  $\varnothing$  8,2 mm
- High-precision meter counter serial
- All-round protection and high stability by circular cage
- Simply carrying
- Large accumulator-capacity (optional) in light lithium technique - Made in Germany
- Display turn able in all directions
- High grade wheel disc brake
- Service-pleasant
- Practical small bag

##### Accessories

- TFT-monitor 5,6"
- TFT-monitor 5.6" with SD-card memory
- TFT-monitor 8" with SD-card memory
- Locating transmitter
- Accumulator 36 V / 2,6 Ah in light lithium technique incl. recharger
- Transport trolley



##### Pan & tilt camera RI 56100 SKS

- 45° bendable from ID 80
- 87° bendable from ID 100
- Pan angle  $\pm 120^\circ$
- Pan angle incl. viewing range  $\pm 148^\circ$
- Endless rotation
- Slip clutch in rotation axis
- High-resolution colour camera module
- Automatic aperture control
- Automatic self leveling picture (can be disabled)
- Camera head zero setting
- Pan axis supported on both sides
- Electric focusing
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Push guide from ID 110

# PIPE INSPECTION

## / Push cameras



### RITEC RiCubio M

#### Description and technical details:

##### System

- Max. length of cable: 60 m
- Compact system
- 50 m pushcable,  $\varnothing$  10.3 mm
- High-precision meter counter serial
- All-round protection and high stability by circular cage
- Simply carrying
- Large accumulator-capacity (optional) in light lithium technique - Made in Germany
- Display turn able in all directions
- High grade wheel disc brake
- Service-pleasant
- Practical small bag

##### Accessories

- TFT-monitor 5,6"
- TFT-monitor 5.6" with SD-card memory
- TFT-monitor 8" with SD-card memory
- Locating transmitter
- Accumulator 36 V / 2,6 Ah in light lithium technique incl. recharger
- Transport trolley
- Joystick remote



##### Pan & tilt camera RI 56100 SKS

- 45° bendable from ID 80
- 87° bendable from ID 100
- Pan angle  $\pm 120^\circ$
- Pan angle incl. viewing range  $\pm 148^\circ$
- Endless rotation
- Slip clutch in rotation axis
- High-resolution colour camera module
- Automatic aperture control
- Automatic self leveling picture (can be disabled)
- Camera head zero setting
- Pan axis supported on both sides
- Electric focusing
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Push guide from ID 110



# PIPE INSPECTION

## / Push cameras



### RITEC Push reel S analog

#### Description and technical details:

##### System

- Max. length of cable: 40 m
- 30 m push cable  $\varnothing$  6 mm
- Meter counter displayed in the monitor
- Video input / BNC output
- Operation 100V AC to 240V AC
- Arresting brake
- Stainless steel reel

##### Accessories

- TFT-monitor 5,6"
- TFT-monitor 5.6" with SD-card memory
- Locating Transmitter, Frequency 512 kHz
- Locating Transmitter, Frequency 33 kHz
- Text generator
- Wheel skid from from DN 150



##### Axial camera (analog) RI 2930 STD

- Axial camera  $\varnothing$  29 mm
- 87° bendable from ID 50
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus
- Guide ball from ID 50
- Guide brush from ID 100

# PIPE INSPECTION

## / Push cameras



### RITEC Push reel M analog

#### Description and technical details:

##### System

- Max. length of cable: 60 m
- 50 m push cable  $\varnothing$  7.5 mm
- Meter counter displayed in the monitor
- Video input / BNC output
- Operation 100V AC to 240V AC
- Arresting brake
- Stainless steel reel

##### Accessories

- TFT-monitor 5,6"
- TFT-monitor 5.6" with SD-card memory
- TFT-monitor 8" with SD-card memory
- Locating Transmitter, Frequency 512 kHz
- Locating Transmitter, Frequency 33 kHz
- Battery with integral charger and charging level display
- Text generator
- Guide cage from DN 100
- Wheel skid from from DN 200



##### Axial camera (analog) RI 4035 VB

- Axial camera  $\varnothing$  40 mm
- 45° bendable from ID 80
- 87° bendable from ID 100
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- Automatic self leveling picture
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus
- Guide ball from ID 50
- Guide brush from ID 100

# PIPE INSPECTION

## / Push cameras



### RITEC Push reel M digital

#### Description and technical details:

##### System

- Max. length of cable: 50 m
- 50 m push cable  $\varnothing$  7.5 mm
- Meter counter displayed in the monitor
- Video input / BNC output
- Operation 100V AC to 240V AC
- Display of rotation and pan angle in degrees
- Arresting brake
- Stainless steel reel
- Manual remote control

##### Accessories

- TFT-monitor 5,6"
- TFT-monitor 5.6" with SD-card memory
- TFT-monitor 8" with SD-card memory
- Locating transmitter
- Text generator
- Push guide from ID 160
- Guide cage from ID 100 for RI 4035 VB
- Wheel skid from ID 200 for RI 4035 VB
- Fixing for pushing guide on reel frame
- Cable drum with 50 m extension cable for transmitting video signals, meter length and control commands



##### Bendable camera RiFlexio S

- Pan & tilt camera  $\varnothing$  56 mm
- 45° bendable from ID 80
- 87° bendable from ID 100
- Turn off able from ID 80 in 45°
- Turn off able from ID 100 in 87°
- Pan angle  $\pm 120^\circ$
- Pan angle incl. viewing area  $\pm 141^\circ$
- Endless rotation
- High-resolution colour camera module
- Automatic aperture control
- Automatic self leveling picture
- Camera head zero setting
- Pan axis supported on both sides
- Electric focusing
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Push guide from ID 110

# PIPE INSPECTION

## / Push cameras



### RITEC RI 1320 SLC

#### Description and technical details:

##### System

- Max. length of cable: 20 m
- Axial camera  $\varnothing$  13 mm
- 87° bendable from ID 25
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus
- Max. 20 m push cable  $\varnothing$  3 mm in rotatable reel basket
- TFT-monitor 5,6"
- Meter counter displayed in the monitor
- Battery with integral charger and charging level display
- Sturdy hard-shell case
- Video output BNC
- Operation 100V AC to 240V AC or with integrated battery (operating time approx. 4 hrs.)

##### Accessories

- SD card storage, video and image memory
- Guide ball
- Extension for 20 m push cable
- Text generator



##### Axial camera (analog) RI 1320 SLC

- Axial camera  $\varnothing$  13 mm
- 87° bendable from ID 25
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus
- Operation 100V AC to 240V AC or with integrated battery (operating time approx. 4 hrs.)
- Video BNC output

# PIPE INSPECTION

## / Push cameras



### RITEC RI 2020 SLC

#### Description and technical details:

##### System

- Max. length of cable: 25 m
- Axial camera  $\varnothing$  20 mm
- 87° bendable from ID 40
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus
- Max. 25 m push cable  $\varnothing$  5.5 mm in rotatable reel basket
- TFT-monitor 5,6"
- Meter counter displayed in the monitor
- Battery with integral charger and charging level display
- Sturdy hard-shell case
- Video output BNC
- Operation 100V AC to 240V AC or with integrated battery (operating time approx. 4 hrs.)

##### Accessories

- SD card storage, video and image memory
- Guide ball 27
- Guide ball 32
- Extension for 25 m push cable
- Locating Transmitter, Frequency 512 kHz
- Locating Transmitter, Frequency 33 kHz
- Text generator



##### Axial camera (analog) RI 2020 SLC

- Axial camera  $\varnothing$  20 mm
- 87° bendable from ID 40
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus
- Operation 100V AC to 240V AC or with integrated battery (operating time approx. 4 hrs.)
- Video BNC output

# PIPE INSPECTION

## / Push cameras



### RITEC RI 25 SLC

#### Description and technical details:

##### System

- Max. length of cable: 25 m
- Axial camera  $\varnothing$  25 mm
- 87° bendable from ID 50
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus
- Max. 25 m push cable  $\varnothing$  6.5 mm in rotatable reel basket
- TFT-monitor 5,6"
- Meter counter displayed in the monitor
- Battery with integral charger and charging level display
- Sturdy hard-shell case
- Video output BNC
- Operation 100V AC to 240V AC or with integrated battery (operating time approx. 4 hrs.)

##### Accessories

- SD card storage, video and image memory
- Guide ball
- Guide brush
- Extension for 25 m push cable
- Locating Transmitter, Frequency 512 kHz
- Locating Transmitter, Frequency 33 kHz
- Text generator



##### Axial camera (analog) RI 25 SLC

- Axial camera  $\varnothing$  25 mm
- 87° bendable from ID 50
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus

# PIPE INSPECTION

## / Water jetting cameras



### RITEC RiMaxio

#### Description and technical details:

##### System

- Max. length of cable: 60 m
- Steerable high pressure jet camera
- steerable by a remote control via water high pressure
- For cleaning and inspections from ID 50 - ID 150
- Compact system
- 45° bendable from ID 50
- High-precision meter counter serial
- All-round protection and high stability by circular cage
- Simply carrying
- Large accumulator-capacity (optional) in light lithium technique - Made in Germany
- High grade wheel disc brake
- Stability
- Bag for small parts

##### Accessories

- TFT-monitor 5,6"
- TFT-monitor 5.6" with SD-card memory
- TFT-monitor 8" with SD-card memory
- Locating transmitter
- Accumulator 36 V / 2,6 Ah in light lithium technique incl. recharger
- Transport trolley



##### Bendable camera RiMaxio

- steerable high pressure jet camera
- steerable by a remote control via water high pressure
- Axial camera  $\varnothing$  33 mm
- 45° bendable from ID 2.0"
- 87° bendable from ID 100
- High-resolution colour camera module
- Wide angle lens
- Automatic aperture control
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Fixed focus

# PIPE INSPECTION

## / Water jetting cameras



### RITEC RiFlexio S HD Digital

#### Description and technical details:

##### System

- Max. length of cable: 100 m
- Meter counter displayed in the monitor
- For up to 100 m cable
- Video input / BNC output
- Operation 100V AC to 240V AC
- Display of rotation and pan angle in degrees
- Arresting brake
- Joystick remote
- Pushing nozzle 1/4" with 1/2" connection and connecting option on camera socket
- Hose connection including protective hose

##### Accessories

- TFT-monitor 5,6"
- TFT-monitor 5.6" with SD-card memory
- TFT-monitor 8" with SD-card memory
- Locating transmitter
- Text generator
- Guide cage from ID 100 for RI 4035 VB
- Wheel skid from ID 200 for RI 4035 VB
- Cable drum with 50 m extension cable for transmitting video signals, meter length and control commands
- Pushing nozzle 3/8" with 1/2" connection and connecting option on camera socket



##### Bendable camera RiFlexio S HD

- Pan & tilt camera  $\varnothing$  56 mm
- 45° bendable from ID 80
- 87° bendable from ID 100
- Turn off able from ID 80 in 45°
- Turn off able from ID 100 in 87°
- Pan angle  $\pm 120^\circ$
- Pan angle incl. viewing area  $\pm 141^\circ$
- Endless rotation
- High-resolution colour camera module
- Automatic aperture control
- Automatic self leveling picture
- Camera head zero setting
- Pan axis supported on both sides
- Electric focusing
- High-performance LED light
- Protective glass combination made of sapphire and special plastics
- Pressure sensor with pressure drop alarm function
- Push guide from ID 110



# PIPE INSPECTION

## / Manhole camera



### RITEC Manhole camera

#### Description and technical details:

##### System

For quick visual inspection manholes and constructions and checking cleaning results in pipes.

- Application in pipes ID 200 to ID 1200
- Ranges up to 50 m down with zoom function
- Extendable carbon-telescopic rod (2m to 7m), adjustable using quick release lever
- 10 m camera cable (inside telescopic rod)
- Excellent handling due to optimised weight
- Other length of telescopic rod on request

##### Camera

- 36x optical and 12x digital zoom
- High-performance LED light with separate light control for close-up and remote areas
- Manual inclination adjustment
- Pressurisation
- Lighting for near and long distance, switch separately
- Handle for manual adjustment of the camera

##### Accumulator

- In light lithium technique

##### Control unit with shoulder strap

- Robust housing with 5.6 " TFT monitor and SD card slot
- Piloting of focus, zoom, auto aperture and lighting



### RITEC Controles

#### 19" Control unit

##### Description

- Aluminium case
- Colour monitor 9.7"
- Display of rotation and pan angle in degrees
- Meter counter displayed on monitor
- Text generator integrated in insert with keyboard
- Manual remote control

##### Accessories

- Extension to text generator
- Data transfer to PC via interface for freely selectable pipe detecting and recording software
- Inclination data to PC via interface for freely selectable pipe detecting software
- Film and pictures digitising for duct recording program
- SD memory card, video and pictures memory



#### Manual remote control

##### Description

- Manual and table remote control
- with two joysticks for driving operation and camera functions



# PIPE INSPECTION

## / Cable drums



### Manual S, motorised M y L

#### Cable drum manual S

##### Description

- Protection for camera from carriage
- Meter counter displayed on monitor
- 50 m camera cable, reinforced with Kevlar, abrasion-proof and acid-resistant
- For up to 150 m cable length
- Plug connection, screwable



#### Motorised cable drum M

##### Description

- Manual or synchronous cable winding
- Protection for camera from carriage
- Manual cable guide
- 100 m camera cable, reinforced with Kevlar, abrasion-proof and acid-resistant
- Meter counter displayed on monitor
- For up to 180 m cable length
- Plug connection, screwable



#### Motorised cable drum L

##### Description

- Manual or synchronous cable winding
- Protection for camera from carriage
- Automatic cable guide
- 150 m camera cable, reinforced with Kevlar, abrasion-proof and acid-resistant
- Meter counter displayed on monitor
- For up to 330 m cable length
- Plug connection, screwable



# PIPE INSPECTION

## / Documentation



### RITEC Pressure checking case RI 720

#### Description and technical details:

##### System

Air (over and under pressure) and water test for fixings, shaft inspection

- WinCAN PIT pressure testing software
- Standards: DIN EN 1610, ATV-M 143 part 6, SIA 190, DIN 1999-100, DIN 4040-100 or random input
- PC with 120 GB hard disk
- 12" PC panel with TFT monitor, usable in daylight
- 4x USB output
- External pressure sensor for air and water testing
- Pressure sensor connection for air and water testing
- Arrangement for pressure sensor installation during water testing
- Integrated in sturdy plastic case (black)
- Pressure regulation via sep. case available



##### Accessories

- Tripod for shaft inspections incl. holding rods 3x1 m
- Immersion sensor for manhole inspection with water incl. fixing
- GPS mouse
- Wincan software extension for shaft inspection
- Wincan software extension GPS data stored in report

### RITEC High-performance TABLET

#### Description and technical details:

##### System

- Pipe detecting and recording software
- Video and pictures digitising
- Project management
- Generation of report and coding of damage acc. to EN13508-T2
- Printing of reports
- Dispatch of reports by email
- Hard-shell case for safe storage of TABLET
- Fixing for mounting on Ritec reel system



##### Further options

- Power supply (external power supply)
- Memory expansion 128 GB
- External hard disk 1 TB

The PC unit can be easily installed on a Ritec reel system. A combination with other camera systems is possible via BNC input

