

P350 flexitrac[™] system



Flexibility and **reliability**
in a truly **portable** system.



RELIABILITY WHERE YOU NEED IT

Weatherproof construction that's designed to withstand the toughest conditions.



OUTSTANDING PICTURE QUALITY

Ultra-bright LEDs and high-resolution cameras built on a powerful digital video platform.



DIGITAL VIDEO

Small and light control unit with advanced video functions and integrated report writer.

P350 flexitrac™ system

Flexibility and performance at your service.

The most advanced and complete portable crawler system for the pipeline inspection professional.

Most motorized inspection systems are complex and bulky. Many are difficult to transport and install, prone to weather damage and are complicated to operate.

The P350 flexitrac™ offers inspection professionals the ultimate portable crawler system. This advanced and affordable system features the simplicity and transportability of a pushrod system while delivering the functionality and performance associated with complex and expensive crawler systems.

The P350 is a modular system, designed to meet the tough requirements of most inspection environments.

Outstanding picture quality

The P350 flexitrac features ultra-bright LEDs and high-resolution cameras built on a powerful digital video platform. The P350 flexitrac system supports three interchangeable, high-resolution cameras. Each camera features the latest generation, ultra-bright white LEDs that ensure a clear picture and a long, maintenance-free life. The digital video is displayed on the command module's ultra-bright, 200mm (8") industrial grade TFT screen.

The P350 flexitrac command module allows you to zoom and rotate photos and live or recorded digital video in real-time. The command module also provides Mimic™ display, an intuitive way of controlling pan and tilt.

Combined, these features provide outstanding video picture quality and make it easier and quicker to correctly identify problems even in the toughest conditions.

Reliability where you need it

The P350 flexitrac is engineered to operate in almost any environment. The command module and drum have a weatherproof rating of IP53. The tough, yet light-weight controller provides a durable buffer between the elements and your survey data.

The command module stores survey data direct to solid-state Compact Flash cards. Solid-state non-volatile memory means there are no moving parts so your files are secure and less vulnerable to shock damage and power outages.

The system is operable in the most demanding conditions. The crawlers can



operate fully submersed and are water resistant to depths of up to 100m (330'). They are constructed from brass and stainless steel and are built with a single or twin 50W motor configuration, powerful enough to move through almost any pipeline system. The integrated sensitive inclinometer and the multi-frequency sonde allow you to map pipeline topography easily and efficiently.

The ruggedly constructed cameras are designed to transfer any front impact to the crawler body, protecting the cameras from shock damage.

Flexible digital data transfer

The advanced digital platform of the P350 flexitrac means you can transfer survey data from your Compact Flash card to your PC or laptop via fast USB 2.0. Use the included FlexiSight™ Windows-based software to edit video and convert reports to Microsoft® Word format.

With Bluetooth® wireless technology you can send your inspection photos from the command module to a compatible cell phone and forward them instantly to your client.

Versatility

The P350 flexitrac is small enough to fit in the trunk of your car. The system can be van or truck mounted and wheeled on site using the ergonomic barrow design, allowing you to reach conduits beyond the range of your vehicle. Once on site, the system is quick and easy to set-up and deploy.

Build the system to meet your inspection requirements. Choose between a practical and inexpensive manual drum system or an advanced, compact, self-contained powered drum with up to 250m (825') of cable. Choose from three interchangeable cameras

and two powerful, yet compact crawlers that are designed to withstand the most challenging sub-surface conditions.

The command module is also fully compatible with the P340 flexiprobe™, giving you access to its comprehensive range of pushrod reels, cameras and accessories. Switch from crawler to pushrod inspection without carrying a second system.

The system is easy to use, thanks to its intuitive user interface and simple, one-touch control over video and photo capturing. The tough and durable keypad gives you direct access to advanced digital features and lets you drive any drum, crawler and camera combination.

The command module and the drum also feature RCA video outputs, meaning you can record your video to an external device or display video on an external monitor.

Choose between a wide choice of different wheels, elevators and tires to suit the pipe you are surveying. The small wheel set is the optimal configuration for deploying the P354 crawler in 100mm (4") pipes* and the P356 crawler in 150mm (6") pipes*.

Serviceability

The P350 flexitrac system is designed and built for continuous operation and easy maintenance. Each crawler is designed for quick repair. The powered drum features a removable drum and cable cassette that's fast and easy to replace in the workshop or even in the field. The optional re-termination kit makes it easy and affordable to replace and repair damaged cables.

The P350 flexitrac system is the obvious choice when you need cost-effective and flexible solutions.

*Minimum specified diameter must be maintained along the whole length of the survey.

FLEXIBLE DIGITAL DATA TRANSFER

Access your survey data with Compact Flash cards, USB 2.0 or Bluetooth® wireless technology.



RUGGED AND WEATHERPROOF

Surface equipment is IP53 rated whilst crawler and cameras are rated IP68.



VERSATILITY

Build the ultimate, compact system to suit your inspection needs.



SERVICEABILITY

Designed for continuous operation and easy maintenance on and off site.

Digital control

- Compact and tough controller can be left on the drum or fitted where convenient
- Ultra-bright 200mm (8") industrial grade TFT screen with anti-reflective protection offers the best picture in any light condition
- Tough and durable keypad to control all the system functions and movements
- Splash-proof keyboard for text entry and report writing
- Digital zoom and picture navigation functions to explore, in real-time, the live video picture
- Record full PAL/NTSC video and snapshots onto solid-state Compact Flash (CF) card
- Bluetooth® wireless technology to send photos world-wide instantly (using a compatible cell phone and service provider)
- USB 2.0 port to transfer all the files quickly to a PC or laptop
- Compatible with P340 flexiprobe pushrod system

Rugged and flexible

- IP53 and IP68 rated system
- Self-contained power drum allows for van fit or portable use
- Cable lengths from 100m (330') to 250m (825') with a cable-end protection system
- Automatic or manual retrieval mode
- Manual drum available
- Crawlers rated IP68 to 100m (330'), with inbuilt inclinometers and multi-frequency sondes

Power and agility

- Non-steerable P354 crawler allows access in a typical 300mm manhole and pipe surveys from 100mm to 300mm (4" to 12")
- Steerable P356 crawler for pipes from 150mm (6") to 600mm (24")
- 50W (P354) and dual 50W (P356) crawler motors
- Quick release wheels and choice of hard or soft tires for all pipe conditions

Light and vision

- Uses ultra-bright LEDs for a long, maintenance-free life and exceptional light performance
- Choice of three high-definition cameras: forward view, pan & tilt or pan & tilt with 10x optical zoom
- P350-CMOD Mimic display control and auto survey mode for easy pan & tilt operation



Flexibility

The P350 flexitrac system is a modular system and all its main components are fully interchangeable.

Tailor the system to suit your business needs:

- Choose between the manual or self-contained powered drum systems,
- Determine the cable length and crawler size to meet your typical pipe requirements,
- Choose any high-resolution (Forward View, Pan & Tilt or Pan & Tilt with 10x Optical Zoom) camera; each with ultra bright, white LED technology,
- Choose from a wide range and size of wheels, tires and accessories to suit any inspection environment,
- Use the P350 controller with the comprehensive P340 flexiprobe range of pushrods and cameras.

P350 flexitrac system options

| CONTROLLER | Command Module | | |
|--------------|----------------------------|------------------------------|--|
| DRUM | Manual Drum + Portable PSU | Power Drum with Integral PSU | |
| CRAWLERS | P354 Crawler | | P356 Crawler |
| CAMERAS | Forward View | Pan & Tilt | Pan & Tilt with Zoom |
| CABLE LENGTH | 100m/150m/250m | 100m/150m/250m | 100/150m/250m |
| TIRES | Small (hard and soft) | Medium (hard and soft) | Large (Not suitable for P354 Crawler) |



Accessories

| | |
|------------------------|---|
| WALL-MOUNT | To mount the controller on an adjustable arm to the side of your van |
| CRAWLER WEIGHT | 2kg weight plate to boost the P354 crawler traction performance |
| ELEVATOR | Fixed length or adjustable elevators to center the camera position in the pipe |
| CRAWLER GRAB | Choice of crawler grab tools for P354 and P356 to ensure a safe and quick crawler deployment or retrieval |
| LIGHTHEAD | 850lm auxiliary lighthead |
| VAN/TRUCK MOUNTING KIT | To mount the system to your van or truck |
| PENDANT CONTROLLER | To control the system remotely |



CHOICE OF TIRES

Hard or soft, the flexitrac tires ensure traction in the most demanding pipes.



SWIVEL CONNECTOR

The swivel connector minimizes wear and tear of the cable whilst aiding the deployment/retrieval from narrow manholes.



GRAB TOOL

The crawler grab tool ensures the safest and quickest crawler deployment or retrieval.

FlexiSight™ SOFTWARE

Edit your full SVGA videos on a PC or laptop. Convert the reports into Microsoft® Word™ format.

Specifications

P350 flexitrax system specification

| COMMAND MODULE | P350-CMOD |
|-----------------------|---|
| Screen | 200mm / 8" Industrial TFT, SVGA |
| Storage | High Speed Compact Flash |
| Recording Time (hrs)* | 1:45 (HQ) - 3:45 (MQ) - 9:00 (LQ) |
| Connectivity | USB 2.0, Video/Audio In/Out, Ethernet, Bluetooth® |
| Dimensions | 300 x 360 x 200mm / 14" x 14" x 8" |
| Weight | 5.5kg / 12lbs |
| Environmental | IP55 (closed) IP53 (open) |

*Based on a 2GB Compact Flash card

| AUXILIARY LIGHTHEAD | P350-LH-8 |
|--------------------------|------------------------------|
| Dimension (L x Diameter) | 63 x 136mm / 2.5" x 5.4" |
| Weight | 1.8kg / 4.0lbs |
| Construction | Stainless Steel and Aluminum |
| LED Luminance | ≥ 850lm |

| PENDANT CONTROLLER | P350-PENDANT |
|--------------------------|---|
| Dimension (L x Diameter) | 250 x 80 x 40mm / 9.8" x 3.1" x 1.6" |
| Weight | 0.7kg / 1.5lbs |
| Construction | Linear Medium Density Polyethylene (LMDPE) and mild steel |
| Environmental | IP64 |

| DRUMS | P350-DRUM-M | P350-DRUM-P |
|------------------------------|--|--|
| Dimensions (L x W x H) Drum | 445 x 270 x 570mm / 17.5" x 10.6" x 22.4" | 633 x 412 x 740mm / 24.9" x 16.2" x 29.1" |
| Dimensions manual power pack | 418 x 195 x 420mm / 16.5" x 7.7" x 16.5" | Integral |
| Weight | 18kg to 29kg / 39.7lbs to 64lbs depending on cable length | 59kg to 70kg / 130lbs to 154lbs depending on cable length |
| Construction | Powder-coated tubular steel frame with steel and aluminum power pack enclosure. Stainless steel and aluminum manual cable management mechanism | Powder-coated steel chassis with steel and aluminum enclosure. Interchangeable alloy cable drum. Stainless steel and aluminum automatic cable management mechanism |
| Power | 110-240V 50-60Hz 1.2kVA. Generator (if used) to have inverter-type output | |

| CRAWLERS | P354 | P356 |
|------------------------|--------------------------------------|------------------------------------|
| Pipe diameter | 100mm to 300mm / 4" to 12"* | 150mm to 600mm / 6" to 24"* |
| Dimensions (L x W x H) | 250 x 82 x 69mm / 9.8" x 3.2" x 2.7" | 345 x 128 x 84 / 13.6" x 5" x 3.3" |
| Weight | 5.4kg / 12lbs | 14.3kg / 31.5lbs |
| Motors | 1 x 50W | 2 x 50W |
| Construction | Brass and Stainless Steel | Brass and Stainless Steel |
| Sonde frequency | 512/640/8192/32768 Hz | 512/640/8192/32768 Hz |
| Inclinometer accuracy | +/- 0.2° | +/- 0.2° |

*Minimum specified diameter must be maintained along the whole length of the survey

| CAMERAS | P350-CAM-FW | P350-CAM-PT | P350-CAM-PTZ |
|---------------------------|-------------------------|--------------------------|--------------------------|
| Dimensions (L x Diameter) | 62 x 68mm / 2.4" x 2.7" | 134 x 68mm / 5.3" x 2.7" | 158 x 90mm / 6.2" x 3.5" |
| Weight | 600g / 1.3lbs | 1.8kg / 4.0lbs | 2.9kg / 6.4lbs |
| Construction | Stainless Steel | Stainless Steel | Stainless Steel |
| Focal Range | 10mm to ∞ | 10mm to ∞ | 10mm (WIDE) to ∞ |
| Horizontal Resolution | ≥ 460TVL | ≥ 460TVL | ≥ 460 TVL |
| Sensitivity | < 1.0 Lux | < 1.0 Lux | 1.0 Lux @ f1.8 |
| LED luminance | ≥ 120lm | ≥ 210lm | ≥ 420lm |

| ELEVATORS | P350-ELV-F (Fixed Elevator) | P350-ELV-A (Adjustable Elevator) | P350-ELV-LAM (Large Manual Elevator) |
|-------------------|------------------------------|----------------------------------|--------------------------------------|
| Weight | 0.4kg / 0.9lbs | 0.7kg / 1.5lbs | 4.5kg / 9.9lbs |
| Construction | Stainless Steel and Aluminum | Stainless Steel | Stainless Steel and Aluminum |
| Pipe Range (P354) | up to 300mm / 12" | up to 380mm / 15" | Not available |
| Pipe Range (P356) | up to 380mm / 15" | up to 458mm / 18" | 300mm to 600mm / 12" to 24" |

■ **Approvals:** CE (LVD 2006/95/EC, MD 98/37/EC, EMC 2004/108/EC, R+TTE 99/5/EC) / FCC 47 CFR part 15. Satisfies RoHS directive (Cat. 9 exemption). EN61010-1:2001, IEC61010-1:2001, UL61010-1.

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- **Environmental*:**
IP53 (Surface Equipment); IP68 to 100m/11bar (Downhole Equipment)
- **Temperature (Storage):** -20 to 80°C (-4 to 176°F)
- **Temperature (Operating):** -10 to 50°C (14 to 122°F)

*Unless otherwise stated



The flexiprobe™ range

Sonde and Locator package

The sonde and locator package is the essential tool to pinpoint pipe location and depth. Locate the sonde with the RD7000DL+ locator.



| Rods and Reels | P341 Plumbers | P341 Reel | P342 Reels | P343 Reel |
|----------------|--|--|--|---|
| Dimensions | 22.4" x 16.9" x 10.6" 570 x 430 x 269mm | 22.4" x 16.9" x 10.6" 570 x 430 x 269mm | 33.5" x 29.5" x 16.5" 850 x 750 x 420mm | 32.0" x 46.0" x 18.7" 813 x 1168 x 475mm |
| Weight | 21lbs/9.4 kg | 24lbs/11kg | 40lbs/18.2 kg 55lbs/25kg | 81.6lbs/37kg |
| Construction | Powder-coated tubular steel frame | | | |
| Rod | 100' / 30m 200' / 60m | 115' / 35m | 200' / 60m 400' / 120m | 500' / 150m |

| Cameras | P340 1" / 25mm Camera | P340 2" / 50mm Self Leveling Camera |
|-----------------------|--|--|
| Dimensions | 1" x 1.52" / 25.4 x 38.7mm | 1.89" x 2.87" / 48 x 72.8mm |
| Weight | 0.13lbs/0.06kg | 0.79lbs/0.36kg |
| Construction | Stainless steel/polycarbonate | Stainless steel/sapphire glass/polycarbonate |
| Power | 1.8W | 3.8W |
| Environmental | IP68 to 330' (100m)/11bar | |
| Temperature | Storage: -4°F to 176°F / -20°C to +80°C Operating: 14°F to 122°F / -10°C to 50°C | |
| Focus | Adjustable | |
| Focal range | 10mm to ∞ | |
| Lighting | Ultra bright white LEDs | |
| LED luminance | ≥ 75lm | ≥ 208lm |
| Active pixels (HxV) | 656 x 492 NTSC / 768 x 576 PAL | 768 x 492 NTSC / 765 x 582 PAL |
| Horizontal resolution | ≥ 460TVL | |



America

Radiodetection

154 Portland Road
Bridgton, ME 04009, USA
Tel: +1 (207) 647 9495
Toll Free: +1 (877) 247 3797
Fax: +1 (207) 647 9496
Email: rd.sales.us@spx.com
Web: www.radiodetection.com

Pearpoint

39-740 Garand Lane, Unit B
Palm Desert, CA 92211, USA
Tel: +1 800 688 8094
Tel: +1 760 343 7350
Fax: +1 760 343 7351
Email: pearpoint.sales.us@spx.com
Web: www.radiodetection.com

Radiodetection (Canada)

344 Edgeley Boulevard, Unit 34
Concord, Ontario L4K 4B7, Canada
Tel: +1 (905) 660 9995
Toll Free: +1 (800) 665 7953
Fax: +1 (905) 660 9579
Email: rd.sales.ca@spx.com
Web: www.radiodetection.com

Europe

Radiodetection Ltd (UK)

Western Drive
Bristol BS14 0AF, UK
Tel: +44 (0) 117 976 7776
Fax: +44 (0) 117 976 7775
Email: rd.sales.uk@spx.com
Web: www.radiodetection.com

Radiodetection (France)

13 Grande Rue, 76220
Neuf Marché, France
Tel: +33 (0) 2 32 89 93 60
Fax: +33 (0) 2 35 90 95 58
Email: rd.sales.fr@spx.com
Web: <http://fr.radiodetection.com>

Radiodetection (Benelux)

Industriestraat 11
7041 GD 's-Heerenberg, Netherlands
Tel: +31 (0) 314 66 47 00
Fax: +31 (0) 314 66 41 30
Email: rd.sales.nl@spx.com
Web: <http://nl.radiodetection.com>

Radiodetection (Germany)

Groendahlscher Weg 118
46446 Emmerich am Rhein, Germany
Tel: +49 (0) 28 51 92 37 20
Fax: +49 (0) 28 51 92 37 520
Email: rd.sales.de@spx.com
Web: <http://de.radiodetection.com>

Asia-Pacific

Radiodetection (Asia-Pacific)

Room 708, CC Wu Building
302-308 Hennessy Road, Wan Chai
Hong Kong SAR, China
Tel: +852 2110 8160
Fax: +852 2110 9681
Email: rd.sales.cn@spx.com
Web: www.radiodetection.com

Radiodetection (China)

Hongfu Mansion, Room 61622
Zheng Ge Zhuang, Bei Qi Jia Town
Chang Ping District
Beijing 102209, China
Tel: +86 (0) 10 8975 5540
Fax: +86 (0) 10 8975 5640
Email: rd.service.cn@spx.com
Web: <http://cn.radiodetection.com>

Radiodetection (Australia)

Unit H1, 101 Rookwood Road,
Yagoona NSW 2199, Australia
Tel: +61 (0) 2 9707 3222
Fax: +61 (0) 2 9707 3788
Email: rd.sales.au@spx.com
Web: www.radiodetection.com



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