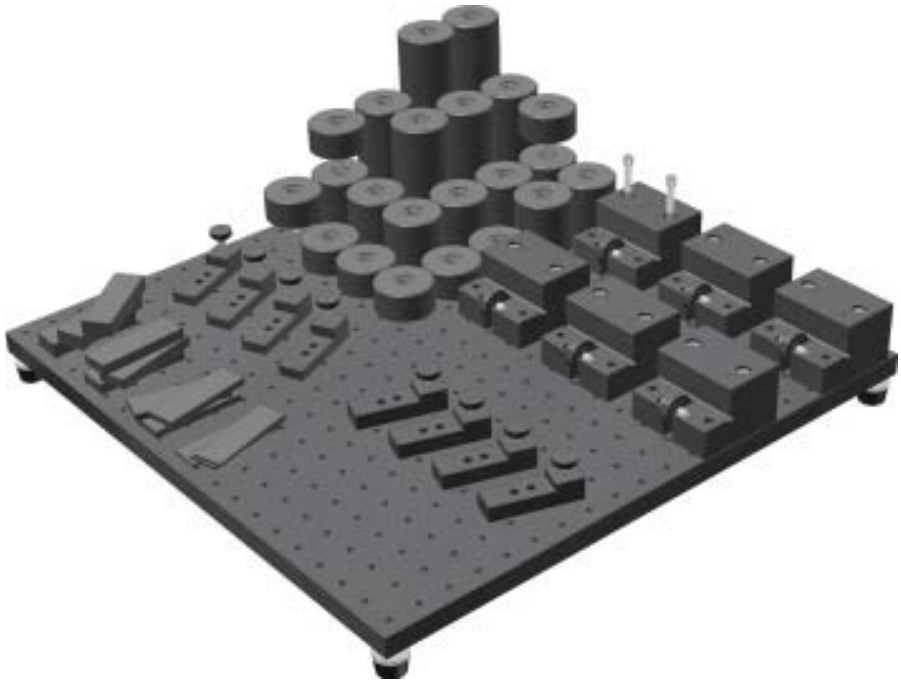
ESScanLab

Precision Locating & Positioning System for UT Scanning
Product Info Guide



The ESScanLab is a precision locating and positioning system designed for UT scanning to complement most manual and semi-automated scanning systems. This platform enables an operator to confidently position and scan most test pieces with superior accuracy, repeatability and speed.

Head Office & Training Center
60 Baffin Place, Unit 4
Waterloo, Ontario, Canada, N2V 1Z7
Phone (800) 490-1072 • Fax (519) 886-1102

Western Operations
3-11 Bellerose Drive, Suite #353
St. Albert, Alberta, Canada, T8N 5C9
Phone (780) 449-4078 • Fax (530) 239-8408

Accounting & Application Lab
255352 Concession 1, RR#1
Williamsford, Ontario, Canada, N0H 2V0
Phone (519) 794-0110 • Fax (519) 794-4437

Software Engineering & Distribution Center
2045 20th Avenue East, Suites 20 & 21
Owen Sound, Ontario, Canada, N4K 5N3
Phone (519) 372-1831 • Fax (519) 372-2039

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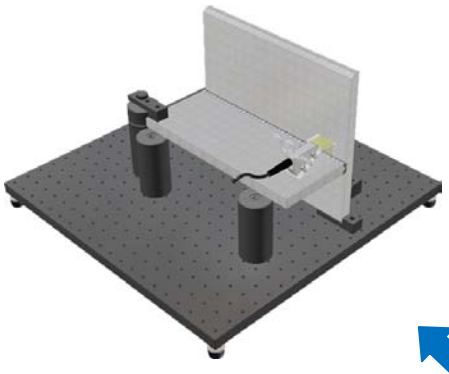
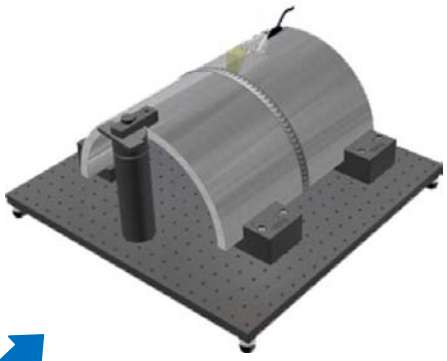
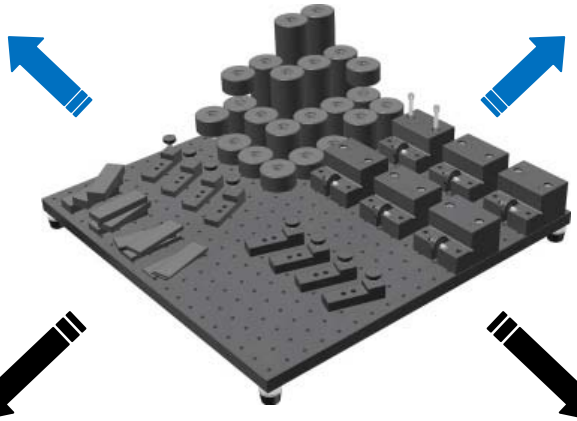
Product Selection

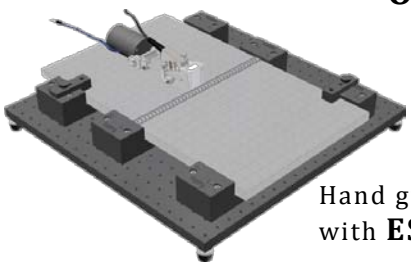


Precise component
locating & positioning
with
ESScanLab-Basic

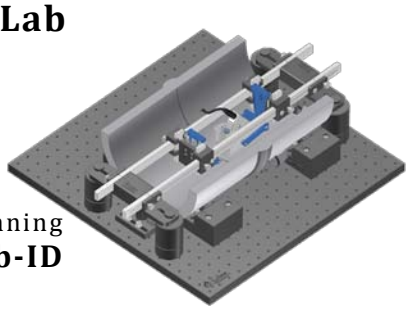




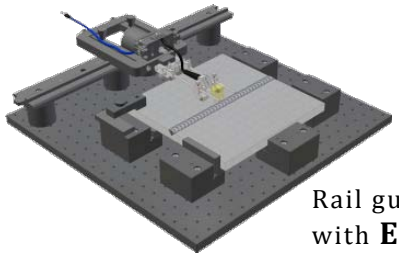
Optional Components for ESScanLab



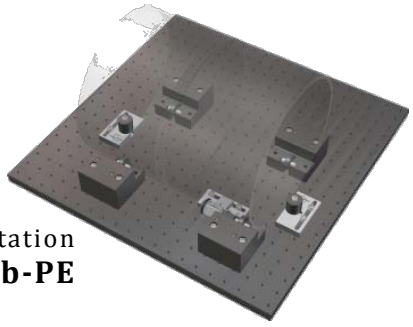
Hand guided encoded scanning
with **ESScanLab-TE**



ID pipe scanning
with **ESScanLab-ID**



Rail guided linear scanning
with **ESScanLab-LS**



Encoded pipe rotation
with **ESScanLab-PE**

Contents

Please Note:

The purpose of this manual is to provide information for product mechanical aspects and parts ordering only. It is not intended as a guide for use, NDT procedures, techniques, data collection or data interpretation.
It is the responsibility of the end user to use this product in a safe manner and in accordance with any local or regional safety legislation.
The information provided by Eclipse Scientific is believed to be accurate however Eclipse Scientific accepts no responsibility for the use of this product, nor any patent infringement or other rights of third parties. Eclipse Scientific reserves the right to change specifications without notice. Please contact Eclipse Scientific for the most current product information.

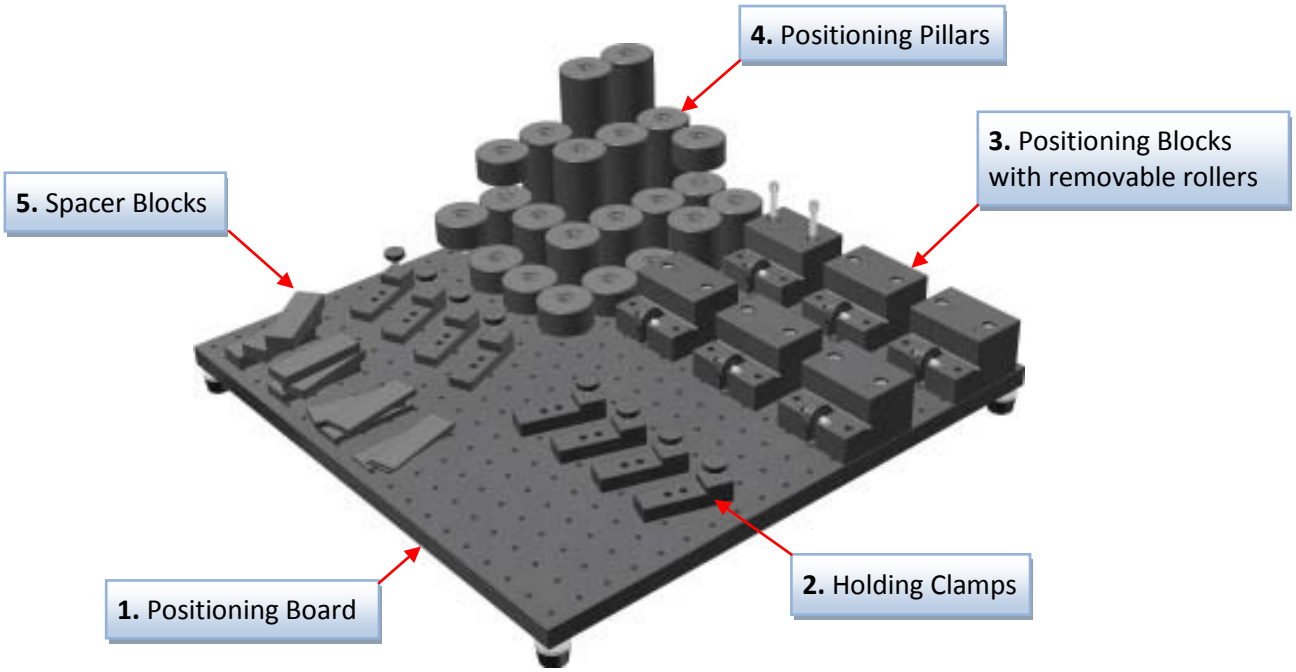
Basic System

Model No.: ESScanLab-Basic

Precision, locating & positioning system for UT scanning

ESScanLab-Basic is the essential system needed for a suite of products that simplifies and aids precision UT scanning in a controlled environment. The set includes positioning, clamping and spacing elements that mount to a layout board tapped 1/4-20 on a 1" spaced grid.
A variety of flat, angled and pipe samples can be securely positioned onto the board.

The ESSL Set includes the following elements as standard equipment:



1. (1x) Positioning board
20" x 20" (510 x 510 mm)

2. Holding clamps with thumb screws

(4x) Large (4x) Small

3. (6x) Positioning blocks with removable rollers

4. Positioning pillars

(2x) 6" (150 mm) (4x) 4" (100 mm)
(8x) 2" (50 mm) (8x) 1" (25 mm)

5. Spacer Blocks

(8x) 1/2"(13 mm) (8x) 3/8" (10 mm)
(8x) 1/4"(6 mm) (8x) 1/8" (3 mm)

6. All necessary fastening hardware

Specialized Application Components

Model No.: ESScanLab–TE

for encoded, hand-guided scanning

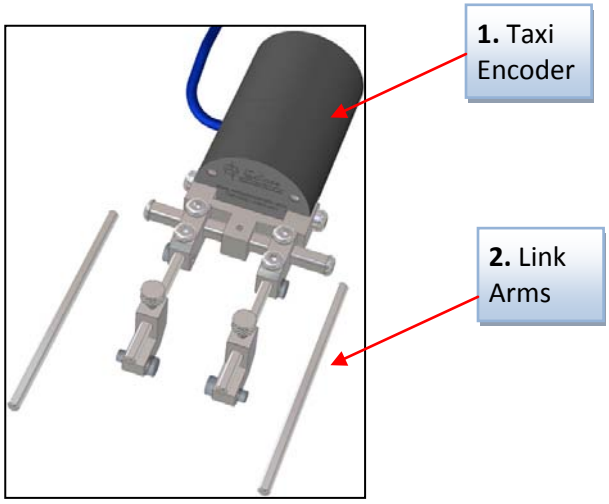
The Taxi Encoder for ESScanLab is a hand-held linear encoder that is used for Phased Array scanning in conjunction with compatible instrumentation. Link arms fastened to the Encoding Taxi allow the use of wedges of varying sizes and design. This ensures accurate, convenient scanning over virtually any surface including pipes of varying diameters.

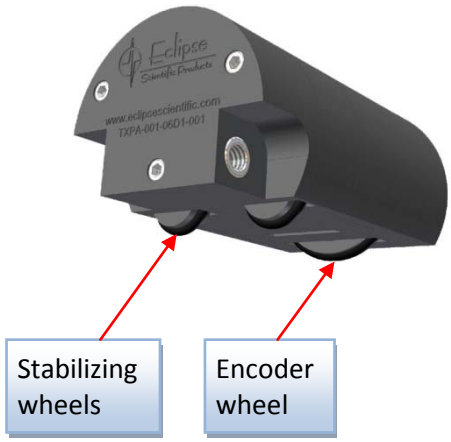
The Taxi Encoder kit includes the following elements as standard equipment:

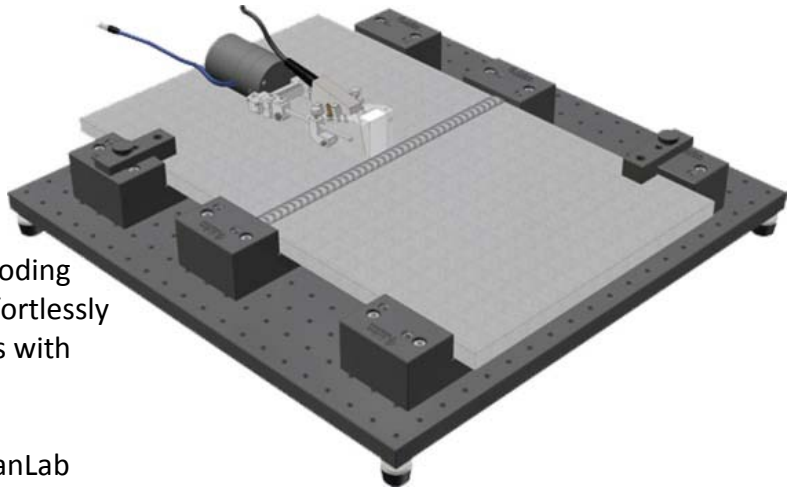
1. (1x) Taxi Encoder

2. (1x) Standard link Arms for PA wedges

Note: Does NOT include ESScanLab-Basic, wedges or probes.





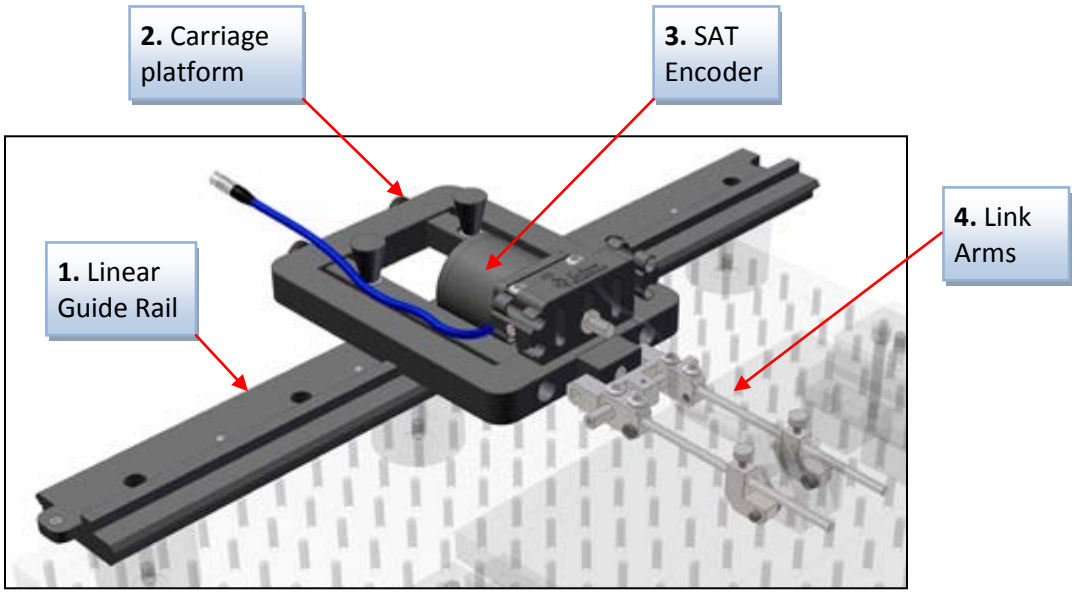


Uniquely designed with free running encoding and stabilizing wheels the Taxi can be effortlessly guided by hand for quick accurate results with many different surfaces and scanning environments.
When used in conjunction with the ESScanLab locating & positioning system and instrumentation, the Taxi Encoder becomes a fast and accurate PA inspection tool.

Model No.: ESScanLab–LS
for encoded, rail-guided linear scanning

The ESScanLab-LS is an encoded linear scanning system that mounts on a guide rail. The guide rail holds the scanning platform and encoder in position for smooth and accurate lineal scanning.

The kit includes the following elements as standard equipment:



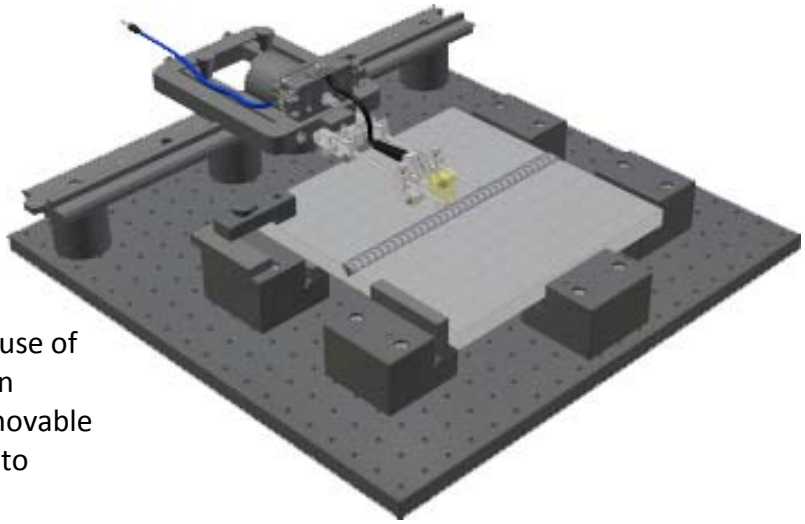
1. (1x) Linear Guide Rail, 20" Long

2. (1x) Carriage platform with

3. (1x) SAT Encoder

4. (1x) Standard link Arms for PA wedges

Note: Does NOT include ESScanLab-Basic, wedges or probes.



Smooth lineal scanning is achieved with the use of four precision machined “V”-guide wheels on bearings and a solid guide platform. The removable SAT encoder unit gives position information to instrumentation.
Used exclusively in conjunction with the ESScanLab locating & positioning system when very accurate scanning results are required.

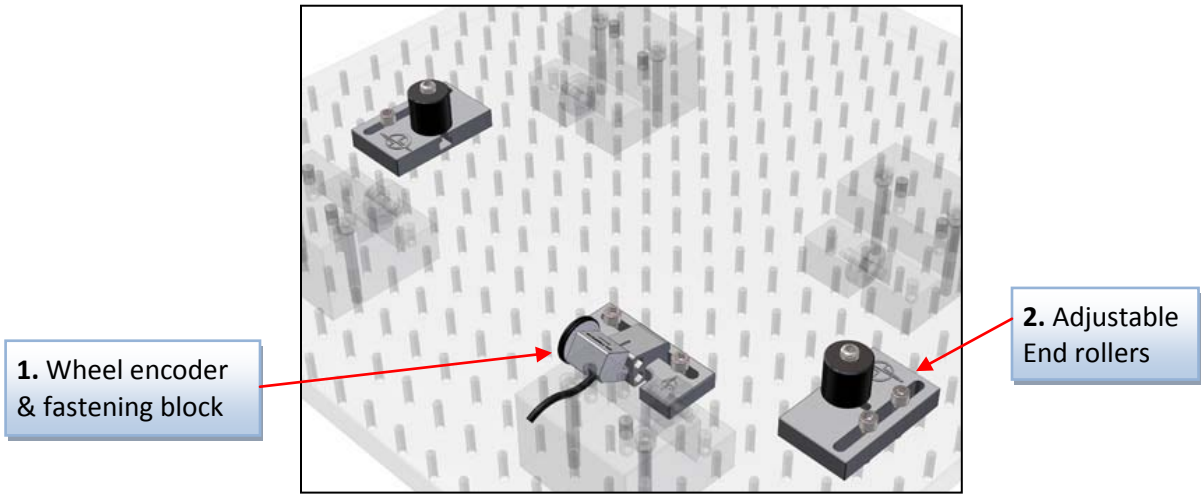
Model No.: ESScanLab-PE
for encoded, pipe rotation

The Pipe Encoding System allows encoded pipe rotation while scanning. End rollers hold a pipe segment in place axially and allow manual rotation.

Recommended for pipe sizes:

	Minimum	Maximum
Nominal OD	2 in (50 mm)	14 in (360 mm)
Length	6 in (150 mm)	16 in (410 mm)

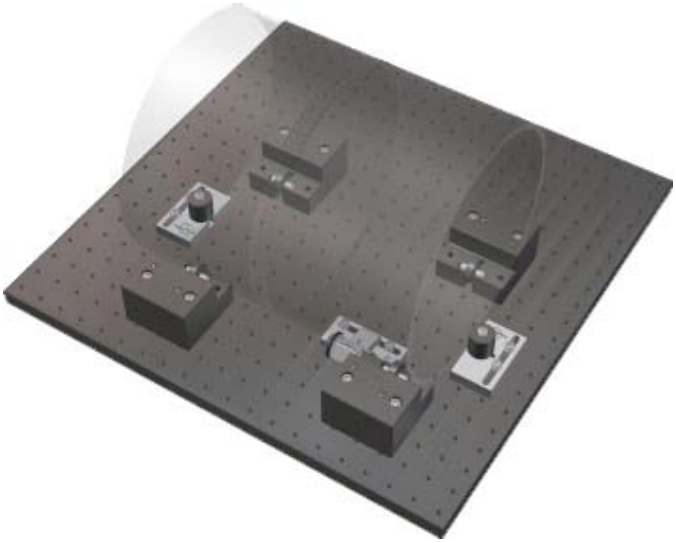
The Pipe Encoder System includes the following elements as standard equipment:



1. (1x) Olympus "Mini-Wheel" encoder on adjustable fastening block

2. (2x) Adjustable end rollers

Note: Does NOT include ESScanLab-Basic, wedges or probes.



Easy circumferential encoding of pipe can be achieved by manually spinning the pipe. The spring loaded wheel encoder adapts to different pipe diameters and maintains constant contact with the pipe while manual scanning is in progress.
Use exclusively in conjunction with the ESScanLab locating & positioning system.

Model No.: ESScanLab-ID

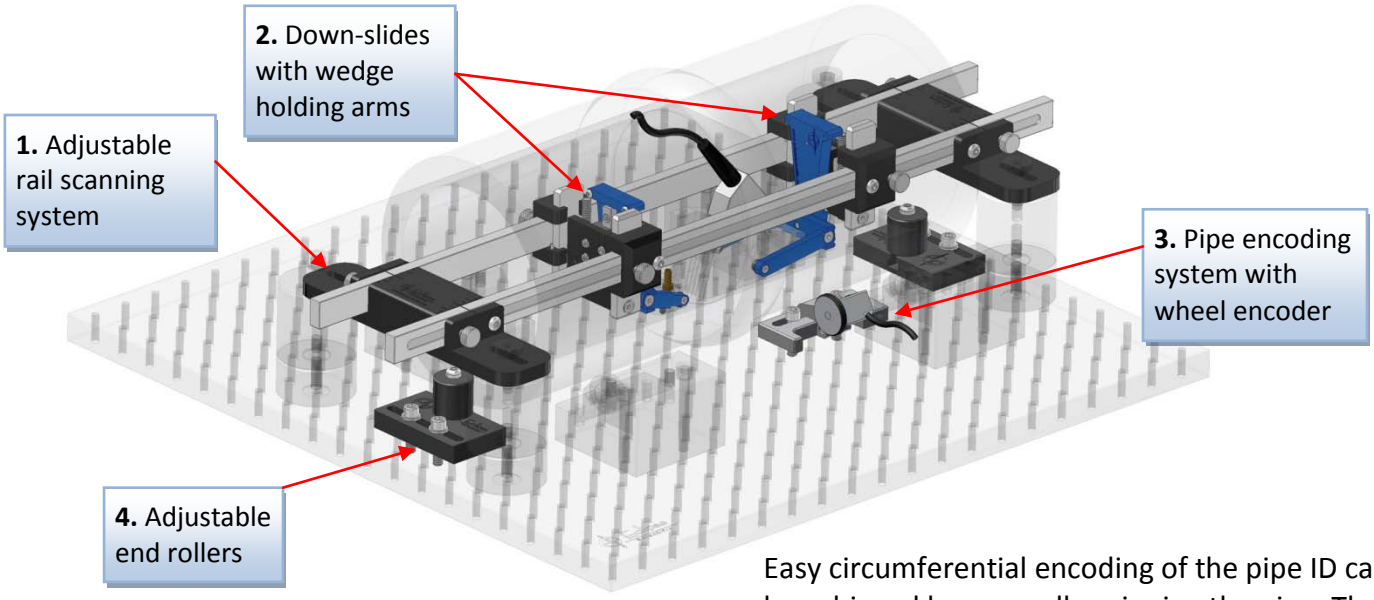
for semi-automatic, encoded, ID pipe scanning

The ID Pipe Scanning System is used to attain very accurate lab scanning on the inside surface of the pipe to an ID as small as 4 inches. Two spring-loaded, adjustable down slides can use standard PA, TOFD or Pipe wedges to achieve desired results on a wide variety of wall thicknesses and weld types. Adjustable end rollers hold the pipe segment in place and allow rotation on the roller blocks, included with the standard ESSL system, while a wheel encoder keeps track of the scanning position.

Recommended for pipe size range:

Pipe	Minimum	Maximum
ID	4 in (100 mm)	
OD	4 in	14 in
Length	6 in (150 mm)	16 in (410 mm)

The Pipe ID Scanning System includes the following elements as standard equipment:



1. (1x) – Adjustable rail scanning system

2. (2x) – Down-slides with wedge holding arms

3. (1x) - Pipe encoder block with encoder

4. (2x) - Adjustable end rollers

Note: Does NOT include ESScanLab-Basic, wedges or probes.

Easy circumferential encoding of the pipe ID can be achieved by manually spinning the pipe. The spring loaded wheel encoder adapts to different pipe diameters and maintains constant contact with the pipe while scanning is in progress. Use exclusively in conjunction with the ESScanLab locating & positioning system.

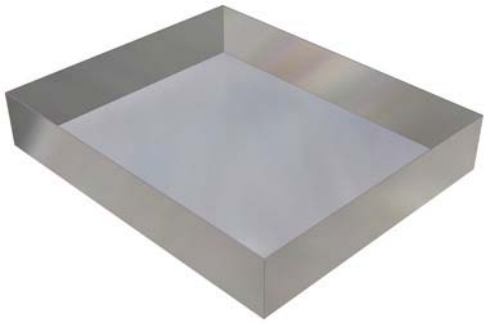
Accessories for the ESScanLab

Couplant Recovery Trays

Couplant Recovery Trays permit the use of recycling pumps for the scanning couplant. The ESSL system and other optional accessories fit inside the tray to prevent spillage of couplant materials.

The couplant recovery trays are available in two materials:

ESScanLab-OTS



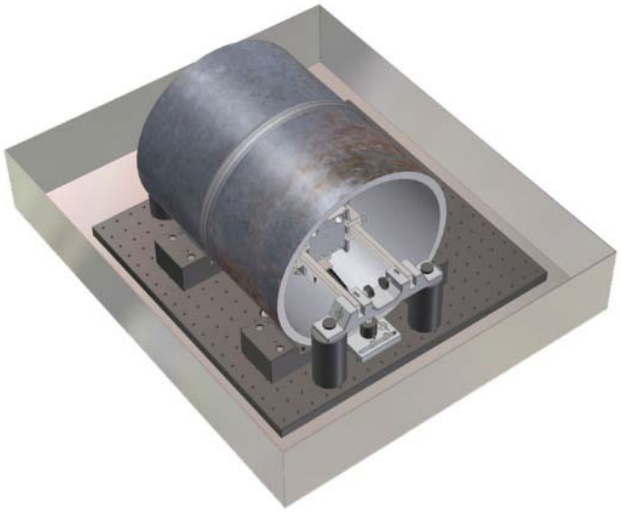
Stainless steel

29” x 24” x 5”
(737 x 610 x 127 mm)

ESScanLab-OTP

Plastic

29” x 24” x 5”
(737 x 610 x 127 mm)



Example of couplant recovery tray in use

Contact

ISO 9001 :2008 Registered

Email

support@eclipsescientific.com

Phone

(519) 372-1831

Fax

(519) 372-2039

Mail

Eclipse Scientific

2045 20th Avenue East

Suites 20 & 21

Owen Sound, Ontario

N4K 5N3

Printed In Canada