

ACIST CVi[®]

Contrast Delivery System



**Safe, efficient and
cost-effective contrast
management solution**
based on clinical evidence

Patient and cath lab team safety

Reducing potential consequences

ACIST CVi helps protect patients with these quality control differentiators:

- Variable rate hand controller delivers precise and consistent contrast administration
- Contrast tracking in real time helps monitor thresholds
- Multiple back-up mechanisms detect air columns in the contrast tubing
 - These include: ACD, auto purge, auto refill, angled design and backlighting



Up to
30%
reduction in CI-AKI
vs. manual injection^{1,2}



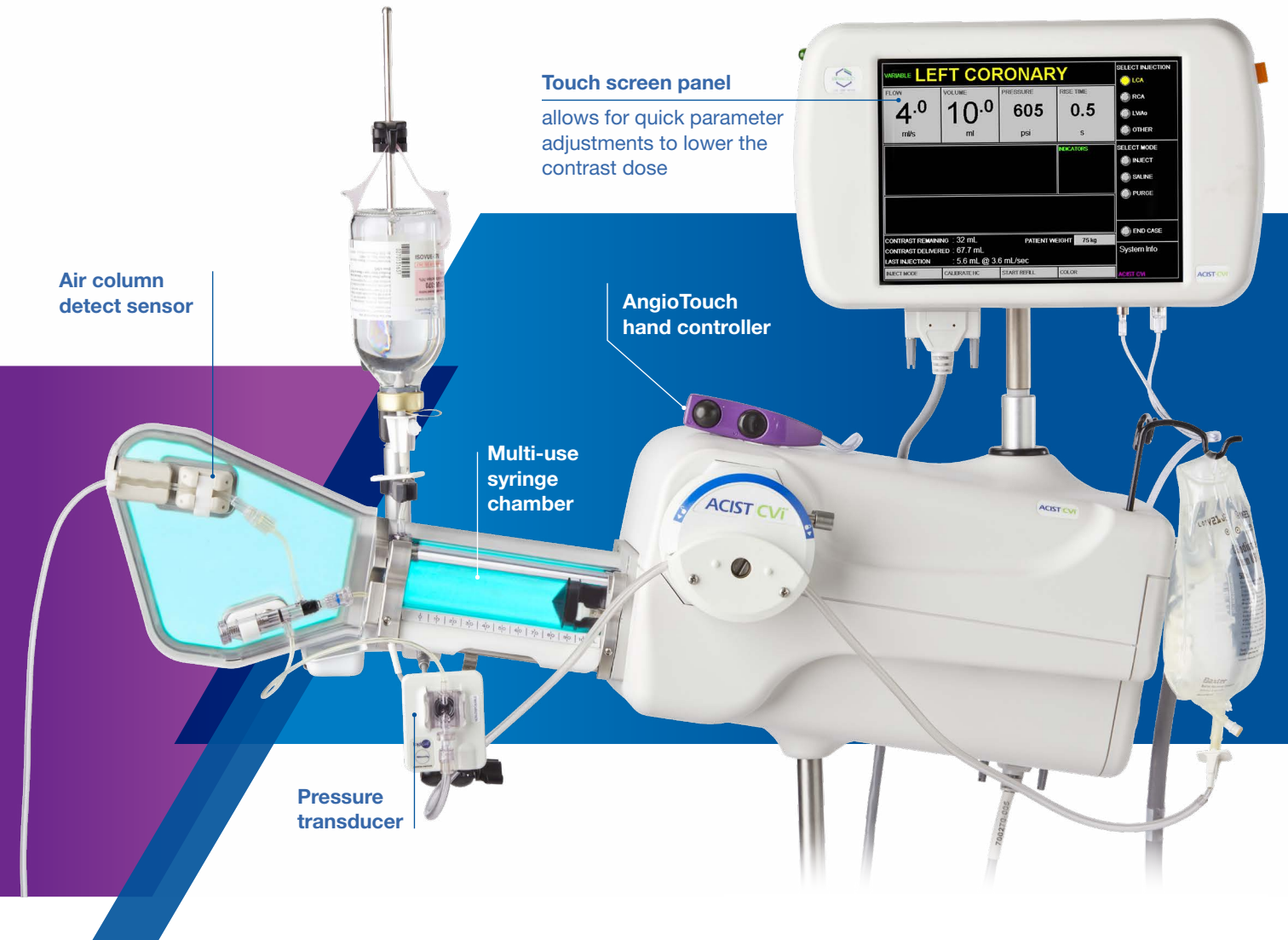
~**25%**
reduction in contrast
use without compromising
image quality when
comparing 4 Fr to 6 Fr
diagnostic procedures^{2,4}



Up to
50%
reduction in clinician
radiation exposure by
stepping back⁵

The variable rate hand controller is designed to increase the team's safety by:

- Enabling clinicians to step back from the radiation source during imaging to reduce radiation exposure
- Providing precise results with fewer images, reducing fluoro time and exposure
- Reducing stress injury with its ergonomic design
- Improving posture to reduce back strain



ACIST CVi can positively impact your initiatives when **measuring quality improvement**

Enhance your lab's **efficiency** by optimizing the workflow and better managing contrast usage

Experience demonstrated **economic value** with measurable efficacy and cost-effectiveness

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Up to **30% reduction** in CI-AKI vs. manual injection^{1,2}



~**25% reduction** in contrast use without compromising image quality when comparing 4 Fr to 6 Fr diagnostic procedures^{2,4}



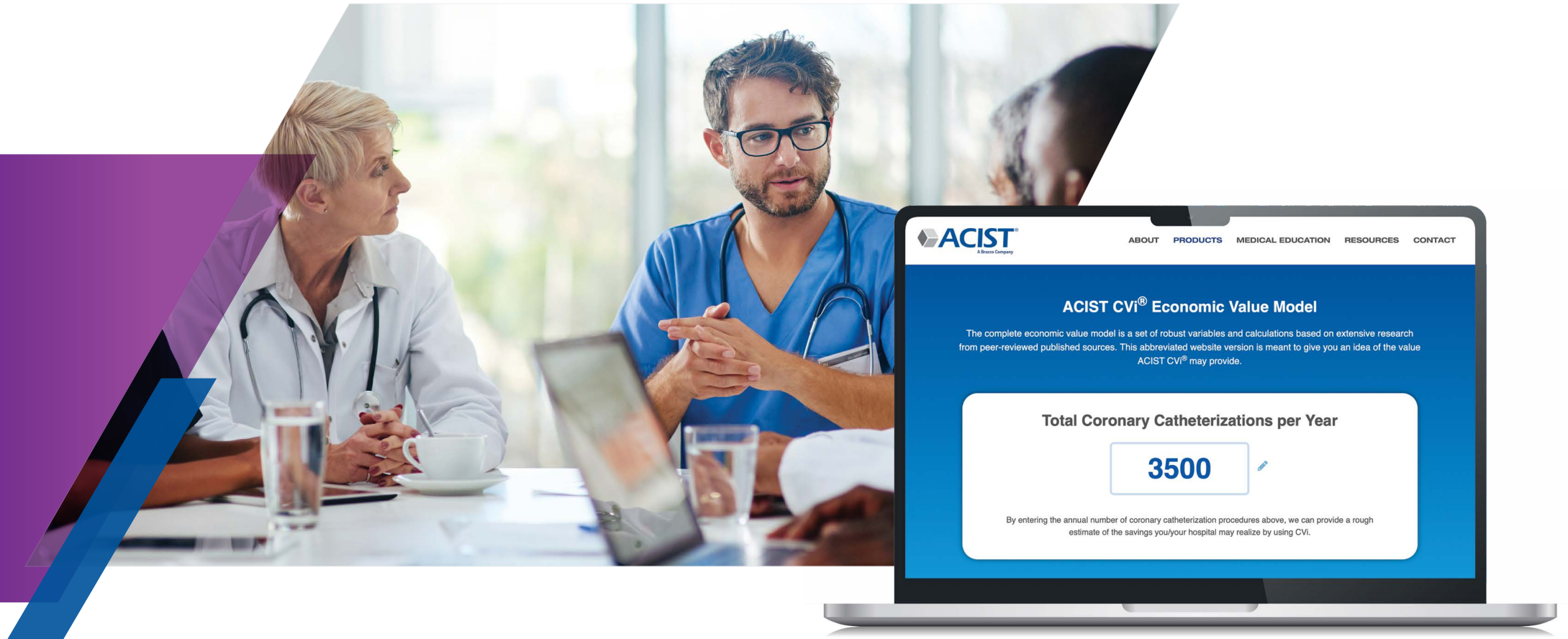
Up to **50% reduction** in clinician radiation exposure by stepping back⁵



5 minute faster per procedure on average⁶
Time saved may allow for **additional procedures** to be performed in a day.⁶



45 mL decrease per case when injector used¹
Significant savings in wasted contrast media.



ACIST CVi® Economic Value Model

The complete economic value model is a set of robust variables and calculations based on extensive research from peer-reviewed published sources. This abbreviated website version is meant to give you an idea of the value ACIST CVi® may provide.

Total Coronary Catheterizations per Year

3500

By entering the annual number of coronary catheterization procedures above, we can provide a rough estimate of the savings you/your hospital may realize by using CVi.

Efficiency

Optimizing workflow and contrast management

Improve cathlab and hospital efficiency by addressing today's most important challenges:

- Standardizing and automating contrast injections to improve staff time management and training process
- Improving workflow with a faster turnaround time
- Minimizing contrast usage and waste

ACIST CVi optimizes the cathlab's workflow with the following features:

- **Innovative automation**, from autofill/purge and air detection, to in-line hemodynamic and contrast monitoring, enables the staff to focus on other tasks to support the patient
- **Multi-use syringe** approved for five cases to decrease setup and turnaround time and reduce waste between cases
- **Variable rate hand controller** reduces procedure time, dosage and clutter in the sterile field
- **Ultra-low dose parameter setting** reduces contrast use for a better patient outcome and less AKI-related complications
- **Standardization in setup** reduces case door-to-balloon time and overall costs

Economic value

Measurable efficacy and cost effectiveness

At ACIST, we have the ability to demonstrate the economic value the ACIST CVi can deliver for your cathlab and hospital. This helps address rising costs (including patient care, staffing, materials and service).

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Experience the value-based difference
ACIST CVi brings to advance reimbursement, standardization and cost savings.



Scan the QR code to see the economic value ACIST CVi can bring to your cath lab.
acist.com/cvi-calculator

Make the value-based, evidence-based choice
for safe, efficient contrast delivery with **ACIST CVi®**



Contact your ACIST
representative or find
yours here.

Product and Technical Specifications

	CVi System
Flow Rates	
Contrast:	User-Responsive, pre-set Variable and Fixed rates from 0.8 to 40 ml/sec, in 0.1 ml/sec increments
Saline:	Fixed rate: 1.6 ml/sec
Volume	User-Responsive, pre-set limits with variable range of 0.8 to 99.9 ml, in 0.1 ml increments
Pressure Limits	User Defined from 200 to 1200 psi
Fill Rate	Manual or automatic refill of 3 ml/sec during operation, 1-2 ml/sec during set-up
Rise Time	User-defined 0 to 1 sec, in 0.1 sec increments
Program Routine Injection Modes	Cardiac: LCA, RCA, LV/Ao and User Defined Peripheral Vascular: Pigtail, Selective, Microcatheter and User Defined
Monitoring Sensors	Air Column Detect*, Isolation Manifold, Contrast Source Empty, Contrast Syringe Refill and Contrast Source Isolation
Imaging Interface Synchronization**	Able to synchronize with most brands of X-ray imaging equipment
Injection Delay** or X-ray Delay**	0–99.9 sec
KVO Feature***	Range of 0.1 to 10 ml/min with 20 min timeout: maximum of 200 ml of saline dispensed
Control Panel	27 cm (10.5 inches) Color Touch Screen
Flexible Mounting Configurations	Table Mount with adjustable arm or stationary stem Pedestal Cart
Pedestal Cart Dimensions	Wheelbase footprint 53.3 X 63.5 cm (21 X 25 inches), height 91.4cm (36 inches)
Contrast Syringe	100 ml
Consumable Kit Configurations	
Contrast Syringe (5 patient):	Contrast Syringe with contrast tubing spike and clamp (for use in up to 5 patient cases)
AngioTouch Hand Controller & Tubing:	AngioTouch hand controller, injection line tubing and 3-way stopcock
Automated Isolation Manifold:	Integrated system with automated isolation-manifold, low-pressure tubing and saline spike, and supplied pressure transducer cartridge
Component Weights	Power supply 5.5 kg (12 lb), control panel and stem 3.2 kg (7 lb), pedestal cart 10 kg (22 lb), injector head 20.4 kg (45 lb), adjustable arm 0.66 kg (1.45 lb)
Power Requirements	Factory selectable: 100 to 120 VAC, 50–60 Hz, 10 A maximum or 200 to 240 VAC, 50–60 Hz, 5 A maximum

* The air column detections sensor is designed to aid the user in the detection of air columns in the injection line, but is not designed to replace the vigilance and care required of the operator in visually inspecting for air and clearing air.

** Available in synchronized peripheral mode

*** Available in peripheral mode

- Call J, Sacrinty M, Applegate R, Little W, Santos R, et al. (2006) Automated contrast injection in contemporary practice during cardiac catheterization and PCI: effects on contrast-induced nephropathy. *J Invasive Cardiol* 18 (10): 469-474.
- Minsinger KD, Kassis HM, Block CA, Sidhu M, Brown JR. (2014) Meta-analysis of the effect of automated contrast injection devices versus manual injection and contrast volume on risk of contrast-induced nephropathy. *Am J Cardiol* 113 (1): 49-53.
- Griffiths RL, Cavalcante R, McGovern AM, et al. Cost to Medicare of acute kidney injury in percutaneous coronary intervention. *Am Heart J*. 2023;262:20-28.
- Chahoud G, Khoukaz S, El-Shafei A, Azrak E, Bitar S, Kern MJ. Randomized comparison of coronary angiography using 4F catheters: 4F manual versus "Acisted" power injection technique. *Catheter Cardiovasc Interv*. 2001;53(2):221-224. doi:10.1002/ccd.1152.
- Larsen AS, Osteras BH. (2012) Step back from the patient: reduction of radiation dose to the operator by the systematic use of an automatic power injector for contrast media in an interventional angiography suite. *Acta Radiol* 53 (3): 330-334.
- Lehmann C, Hotaling M. (2005) Saving time, saving money: a time and motion study with contrast management systems. *J Invasive Cardiol* 17 (2):118-121; quiz 122.

Important Safety Info: The ACIST CVi® Contrast Delivery System is designed to be used by a physician to inject contrast media and saline during angiography. It should be used with appropriate radiographic imaging and blood pressure monitoring and electrocardiogram. Additionally, standard equipment for cardiopulmonary resuscitation and drugs for the treatment of contrast media-induced drug reactions should be available. The CVi system must be operated by or be under the immediate and direct supervision of a physician trained in angiography and the operation of this unit. For maximum safety, use only material provided by ACIST Medical Systems in conjunction with CVi. Please refer to the Instructions for Use for more important safety information. Contamination of patient kits or the contrast container septum poses a risk of serious patient injury due to infection. If suspected contamination has occurred, replace the affected item.

An air embolism can cause patient injury or death. **The operator must take care and follow a defined procedure consistent with the CVi Instructions for Use, are essential to avoid injecting air and causing an embolism.** Before injections, clear all air from the entire patient kit and the angiographic catheter. **It is necessary to reference the CVi Instructions for Use to review all important safety information relating to the device, and particularly to the prevention of air embolisms, as the CVi's sensor systems are not designed to replace the vigilance and care required of the operator in preventing such events.**

Use extreme care when setting the flow rate. High flow rate injections can cause patient injury or death. **When high flow rate injection is required, select a pressure setting that does not exceed the catheter's pressure rating. The maximum pressure rating of the CVi system is 1200 psi.**

ACIST informs interventional decisions in cardiac cath labs, hybrid operating rooms and radiology suites worldwide. Backed by the power of Bracco, a world-class leader in diagnostic imaging, our expanding offering delivers the flexibility clinicians want to get the insights they need.

Bracco Group

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