## Automated Carbon Dioxide Insufflation System for Virtual Colonoscopy

PROTOCO<sub>2</sub>L Touch is the newest technology from Bracco



Bracco. The contrast imaging specialists.



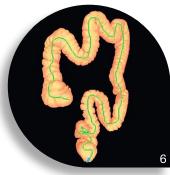
## Consistent, Productive, Comfortable

An essential component for successful Virtual Colonoscopy

#### Consistent

Regulated pressure gradually distends the colon, and maintains that distention for the duration of the study

- Automated insufflation with CO<sub>2</sub> results in more consistent distention and less variability from user to user<sup>5</sup>
- As compared with manual room air insufflation, automated insufflation with CO<sub>2</sub> provides improved colonic distention, as demonstrated in two clinical trials<sup>3,5</sup>
- Volume display allows the monitoring and recording of the volume of CO<sub>2</sub> used, unlike room air insufflation in which the amount of air introduced is not monitored
- Regulated pressure avoids pressure spikes and minimizes the level of patient discomfort often experienced with hand insufflation<sup>4</sup>



#### Comfortable & Safe

Automatic distension with CO<sub>2</sub> is the method of choice, to optimize colonic distension and to maximize patient comfort<sup>1</sup>

Rapid absorption of CO<sub>2</sub> results in improved comfort after the procedure, as compared with room air insufflation<sup>2,3,4</sup>

 Automated low-pressure insufflation may reduce colonic spasm as compared with manual methods, particularly in segments with advanced diverticular disease<sup>4</sup>

 Automated insufflation combined with pressure relief valves and automatic flow stop features help protect against overinsufflation, thereby supporting and improving patient safety

 Over-pressure alarms and safety shutdown features further support patient safety

#### Productive

- Automated insufflation may decrease the demands on staff time, particularly during the insufflation process<sup>2</sup>
- Automatically replaces gas lost during the procedure
- Visual displays allow for quick reference of pressure and volume, and alerts the operator when the CO<sub>2</sub> cylinder is low
- Adjustable pressure up to 35 mmHg allows for user control when necessary



# New and improved PROTOCO<sub>2</sub>L Touch offers the same reliable features you've come to expect, but now with additional benefits to further simplify and streamline the procedure

- No special utilities required: PROTOCO<sub>2</sub>L Touch uses standard medical grade (USP) D or E size carbon dioxide cylinders, or a central supply source, and connects to a standard hospital electrical receptacle
- PROTOCO<sub>2</sub>L Touch displays instantaneous gas pressure reading, records the total volume delivered during the procedure, and alerts the operator when the CO<sub>2</sub> cylinder is low
- An accessory cart provides storage facilities for CO<sub>2</sub> cylinders, and a dedicated holder for administration sets



## **Insufflation System**

	MAIN MENU	
	LANGUAGE	
$\square$	GAS SOURCE	$\bigcirc$
$\square$	VOLUME SETTINGS	$\bigcirc$
$\square$	DEFAULTS	$\bigcirc$

#### User Interface

- PROTOCO<sub>2</sub>L Touch has an easy-to-use, intuitive interface
- Backlit color LCD touch screen provides health care professionals with a userfriendly interface
- PROTOCO<sub>2</sub>L Touch has a main menu linking the user to fully customizable settings, which include volume pause, a possibility to change the gas source, language selector, a ready-to-scan feature, and first and final pressure input



### CO<sub>2</sub> Supply Features

 An improved gas gauge featuring a 3-color icon lets the user know when the gas cylinders are running low and need replac-

ing: Green (full), Yellow (running low), Red (empty)

- The new gauge both visually and audibly alerts the user when the gas supply is low
- The new PROTOCO<sub>2</sub>L Touch now offers the possibility to attach a CO<sub>2</sub> central supply source in addition to a conventional CO<sub>2</sub> cylinder



#### Ready-to-Scan

- The new software interface enables users to determine when colon insufflation is complete
- Proprietary software takes pressure and volume into

account to trigger the ready-to-scan feature

- The ready-to-scan feature reduces the likelihood of a poor quality scan, by alerting the user to the optimal time to start the scan
- The ready-to-scan feature increases the likelihood of getting an optimal scan at the first attempt
- PROTOCO<sub>2</sub>L Touch identifies the steady-state pressure and the point at which optimal colonic distention should most likely be achieved



#### **Pressure Vent**

- The new user-activated pressure vent allows users to eliminate pressure within the administration set and the colon
- The venting system now offers a one-touch solution to immediately relieve intracolonic pressure thereby reducing patient discomfort



#### Language Options

• Customizable language options allow the user to choose among the following languages: English, Spanish, French, German, Italian, Portugese, Swedish,

Finnish, Norwegian, Danish, Greek, Turkish, Dutch, Czech, Polish, Korean, Japanese

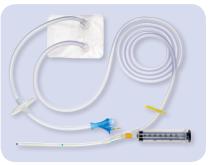
## **Administration Set**

- An in-line fluid trap captures colon effluent and removes it from the "path" of the CO<sub>2</sub> for proper insufflation
- A hydrophobic filter helps to protect the PROTOCO<sub>2</sub>L Touch Insufflator from cross contamination
- Simple connection and detachment from PROTOCO<sub>2</sub>L Touch Insufflator





PROTOCO<sub>2</sub>L Touch Administration Set latex free, with vinyl tubing, syringe and plastic tubing clamp. The system includes a silicone rectal catheter with retention cuff, 0.1µm hydrophobic filter, 100mL effluent collection container and connector to PROTOCO<sub>2</sub>L Touch Colon Insufflator.



#### References:

- 1. Neri E., et al. Eur Radiol 2012 on-line
- 2. Dachman AH. Radiology 2006; 239(2):317-321.
- 3. Burling D, et al. AJR 2006; 186:96-103.
- 4. Pickhardt P. AJR 2007; 189:290-298.
- 5. Shinners T, et al. AJR 2006; 186:1491-1496.
- 6. Courtesy of Dr. Perry J. Pickhardt, University of Wisconsin, Madison, USA.

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