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Codman & Shurtleff, Inc., is dedicated to supporting the neurosurgical community in managing hydrocephalus. Our line of CODMAN® HAKIM® Precision and Programmable Valves allow the neurosurgeon a wide range of options to suite their individual patient needs.

Please contact your local Codman Sales Representative for other hydrocephalus products tailored to your specific needs.

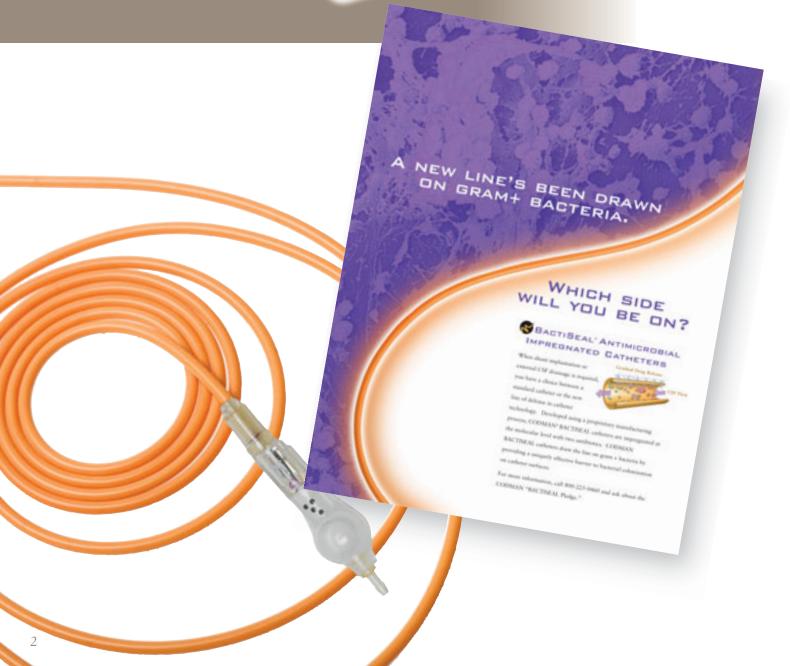
CODMAN BACTISEAL ANTIMICROBIAL IMPREGNATED CATHETER SYSTEM

BACTISEAL Antibiotic Impregnated Silicone Matrix

Creating a unique and effective barrier to bacterial colonization on all catheter surfaces.

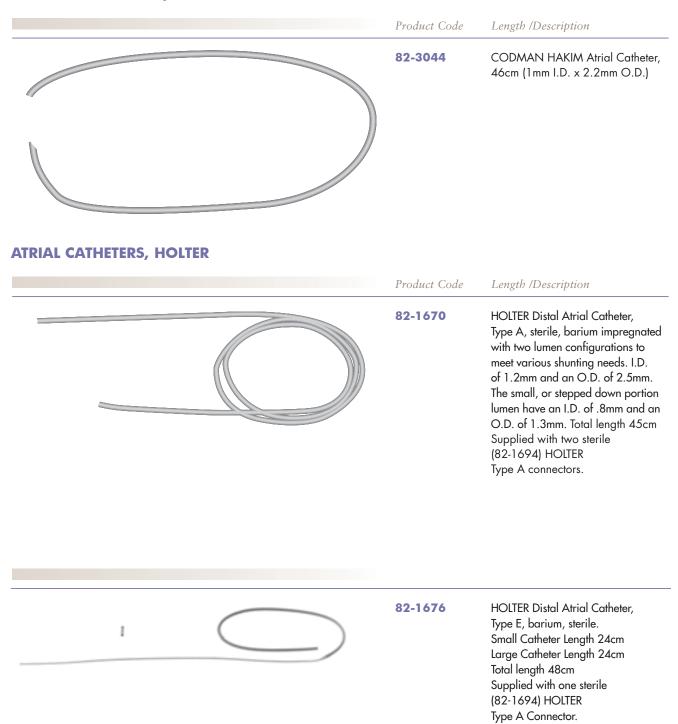
- Maintaining the critical first month shunt implant vigil with two, slow release antibiotics.
- Reducing the potential for bacterial colonization both in the catheter lumen and on its outer surface.





| Product Code | Length /Description |
|--------------|--|
| 82-3072 | CODMAN BACTISEAL Barium Silicone Catheter Kit contains one each: 14cm Ventricular Catheter with barium, 120cm Peritoneal Catheter. |
| 82-3073 | CODMAN BACTISEAL Barium Silicone Ventricular Catheter |
| 82-3074 | CODMAN BACTISEAL Barium Silicone Peritoneal Catheter |
| NS-0343 | CODMAN BACTISEAL Barium Silicone Ventricular Catheter Catheter L. 23cm, .050" x .100" 1.3mm x 2.5mm, length of burr hole 1.5cm, ACCU-FLO style holes and tip. |
| NS-0338 | CODMAN BACTISEAL Clear Silicone with barium stripe Ventricular Catheter, Catheter L. 15cm, Clear w/stripe .050" x .100" 1.3 mm x 2.5mm, length of burr hole 1.5cm, |
| NS-0339 | ACCUFLO style holes and tip. CODMAN BACTISEAL Clear Silicone with barium stripe Peritoneal (distal) Catheter, Catheter L. 120cm, .050" x .100" 1.3mm x 2.5mm |
| NS-0340 | CODMAN BACTISEAL Clear Silicone with barium stripe Ventricular & Peritoneal Catheters. Kit contains one each: 15cm Ventricular Catheter, 120cm Peritoneal Catheter |

ATRIAL CATHETERS, HAKIM



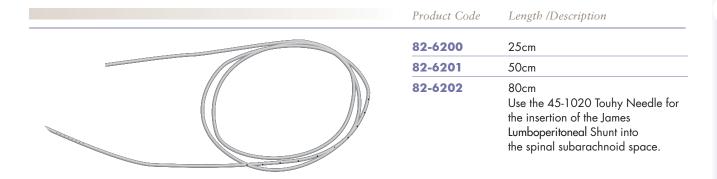
LUMBOPERITONEAL CATHETERS, HOLTER

Lumboperitoneal Catheters are designed for shunting from the subarachnoid space to the peritoneal cavity. This method provides a simple means of treating communicating hydrocephalus, and is an effective alternative to standard V.A. or V.P. shunts in the treatment of pseudotumor cerebri, cranial and spinal CSF fistula (non-infected), and recurrent bulging craniotomy sites. HOLTER Lumboperitoneal Catheters manufactured as a one-piece silicone tubing with an I.D. of 1.2mm and an O.D. of 2.5mm. The 3cm T-portion has four sets of three proximal holes, and has 1.0mm I.D. and 1.8mm O.D. The peritoneal catheter end has three longitudinal slits (120° apart) to regulate flow and prevent reflux.



LUMBOPERITONEAL CATHETERS, JAMES

Lumboperitoneal Catheters, JAMES design, one-piece, sterile. Pressure is controlled through distal slit valves (5–9cm H₂O Medium Pressure), four slits 90° apart. The proximal tip is perforated, open ended and angled cut for easy insertion. I.D.=.76mm. O.D.=1.65mm.



PERITONEAL, ACCU-FLO Open End

Product Code Length /Description

82-1380

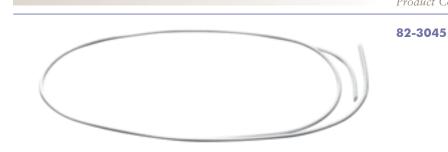
ACCU-FLO Barium Distal Open End Catheter, sterile. Made of barium impregnated silicone tubing. 1.3mm I.D. x 2.5mm O.D. x-ray detectable. Each catheter has 24 drainage holes, four rows of six holes, 90° apart. X-ray detectable tantalum markings are at the distal 10cm, 20cm, and 30cm. Length 91cm

PERITONEAL, ACCU-FLO Distal Slit Valve Catheters are made of silicone tubing, 1.3mm I.D. \times 2.5mm O.D. Each catheter has a rounded x-ray detectable tantalum tip. The slit valves in CODMAN's distal valve catheters are 90° apart, and are precisely cut to achieve more consistent closing pressures. The pressure of each valve catheter is tested before it is packaged. The dots on each valve catheter indicate the pressure:

- One dot = Low Pressure 2–5cm H₂O closing pressure
- •• Two dots = High Pressure $5-9cm H_2O$ closing pressure
- ••• Three dots = High Pressure 9–14cm H₂O closing pressure

| | Closing Pressure (Measured in cm of Water) |
|---------|---|
| 82-1301 | 2-5cm H ₂ O Low Pressure |
| 82-1302 | 5-9cm H ₂ O Medium Pressure |
| 82-1303 | 9-14cm H ₂ O High Pressure |

PERITONEAL, HAKIM



Product Code Length /Description

CODMAN HAKIM Peritoneal Catheter, 120cm (1mm I.D. x 2.2mm O.D.)

PERITONEAL CATHETERS, HOLTER

HOLTER Distal Peritoneal Catheters, barium, sterile. Barium impregnated with an I.D. of 1.2mm and an O.D. of 2.5mm. Supplied with two sterile 82-1694 HOLTER Type A connectors. Length 90cm

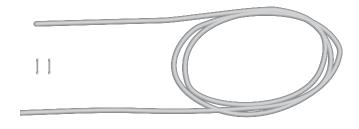


Product Code

Length /Description

82-1682

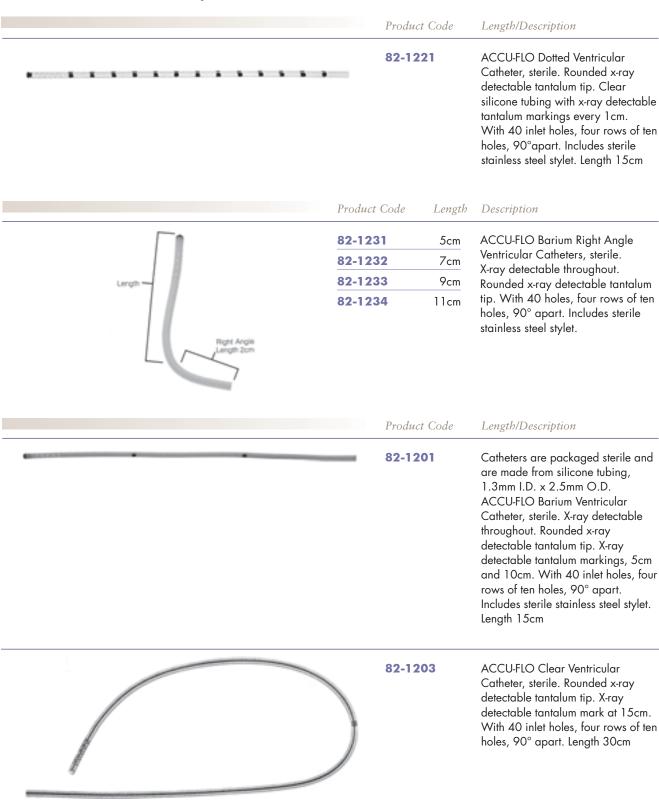
Open end



82-1684

Salmon style, closed distal tip with four side slits 90° apart. The tip is solid silicone and is more heavily opacified for positive x-ray identification.

VENTRICULAR CATHETER, ACCU-FLO



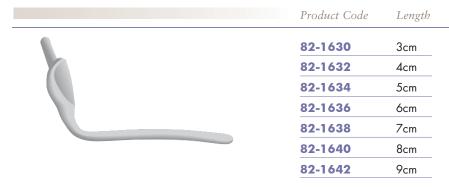
VENTRICULAR CATHETER, HAKIM



82-3041

HAKIM Ventricular Catheter, 14cm Supplied with stylet, introducer, and right angle adapter. (1.4mm I.D. x 2.7mm O.D.)

HOLTER VENTRICULAR CATHETER



The Ventricular Catheter has a height of 6.0mm. The catheter segment and distal end of the catheter-reservoir has a 1.5mm inside diameter and a 3.1mm outside diameter

Product Code

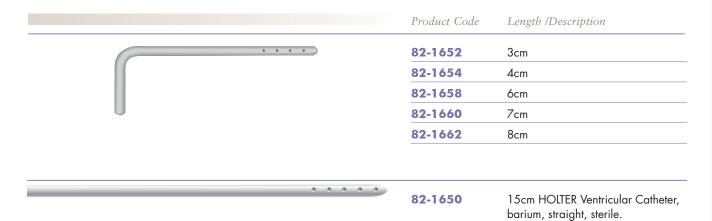
Length/Description

83-1371

Slit Ventricular Catheter Pre-slit HOLTER design ventricular catheter for endoscopic shunt placement.
Barium impregnated radiopaque silicone tubing with multiple tip perforations. I.D. 1.5mm, O.D. 3mm, length 15cm. X-ray detectable dots: one dot at 5cm from the tip, two dots at 10cm from the tip. Packaged sterile.

HOLTER SYSTEM

The CODMAN HOLTER Barium Impregnated System provides both straight and right angle ventricular catheters. The right angle catheters are designed for use when a reservoir is not required. All ventricular catheters have a 3.1mm O.D. and a 1.5mm I.D. All ventricular tips have multiple perforations.



CODMAN HAKIM PROGRAMMABLE VALVE SYSTEM

With the advent of the CODMAN Programmable Valve System, neurosurgeons can pre-select one of 18 different pressure settings. After implantation, the valve can be adjusted non-invasively to adapt to changes in patient condition. That means surgeons are able to make precise pressure adjustments to help control intracranial pressure and ventricle size at any time. CODMAN HAKIM Programme Codman Non-invasive programming technique

CYLINDRICAL VALVE WITH PRECHAMBER

Product Code Description

82-3110

CODMAN HAKIM Programmable Valve Cylindrical Valve with Prechamber Includes: Programmable Valve, Information Manual, Straight Connector(s)*, Introducer.**

82-3111

CODMAN HAKIM Programmable Valve Cylindrical Valve with Prechamber and Unitized Distal Catheter. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Straight Connector(s),* Introducer,** and Right Angle Adapter.

CYLINDRICAL VALVE

Product Code

Description

82-3115

CODMAN HAKIM Programmable Valve Cylindrical Valve. Includes: Programmable Valve, Information Manual, Straight Connector(s),* Introducer.**



Product Code

Description



82-3113

CODMAN HAKIM Programmable Valve Micro Valve with Rickham Reservoir, and Unitized Distal Catheter. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, and Priming Adapter.***

82-3116

CODMAN HAKIM Programmable Valve Micro Valve with Rickham Reservoir. Includes: Programmable Valve, Information Manual, Straight Connector(s),* and Priming Adapter.***

- * Straight Connectors provided with Cylindrical and Micro versions only
- ** Introducers provided with Cylindrical versions only
- *** Priming Adapter provided with In-Line, Right Angle and Micro versions only

MICRO VALVE

Product Code Description

82-3112

CODMAN HAKIM Programmable Valve Micro Valve and Unitized Distal Catheter. Includes: Programmable Valve, Information Manual, Straight Connector(s),* and Priming Adapter.***

82-3114

CODMAN HAKIM Programmable Valve Micro Valve. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Straight Connector(s),* Right Angle Adapter,*** and Priming Adapter.***

IN-LINE VALVE WITH SIPHONGUARD DEVICE

| | Product Code | Description |
|--|--------------|---|
| | 82-3162 | CODMAN HAKIM Programmable Valve In-Line Valve with SIPHONGUARD Device. Includes: Programmable Valve, Information Manual, and Priming Adapter.*** |
| | 82-3832 | CODMAN HAKIM Programmable Valve In-Line Valve with SIPHONGUARD Device. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Peritoneal Catheter, Information Manual, Right Angle Adapter, and Priming Adapter.*** |
| | 82-3842 | CODMAN HAKIM Programmable Valve In-Line Valve with SIPHONGUARD Device and Unitized Distal Catheter. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Right Angle Adapter, and Priming Adapter.*** |

^{*} Straight Connectors provided with Cylindrical and Micro versions only

^{**} Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

IN-LINE VALVE

| Product | Code | Description |
|---------|------|-------------|
|---------|------|-------------|

82-3164 CODMAN HAKIM Programmable Valve In-Line Valve. Includes: Programmable Valves Information Manual, and Priming Adapter.***

82-3834 CODMAN HAKIM Programmable Valve In-Line Valve. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Peritoneal Catheter, Information Manual, Right Angle Adapter, and Priming Adapter.***

82-3844 CODMAN HAKIM Programmable Valve In-Line Valve and Unitized Distal Catheter. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Right Angle Adapter, and Priming Adapter.***

RIGHT ANGLE VALVE

Product Code Description

82-3148



CODMAN HAKIM Programmable Valve Right Angle Valve and Unitized Distal Catheter. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, and Priming Adapter .***

82-3184 CODMAN HAKIM Programmable Valve Right Angle Valve. Includes: Programmable Valve, Information Manual, and Priming Adapter.***

82-3838 CODMAN HAKIM Programmable Valve
Right Angle Valve. Includes: Programmable
Valve, 14cm Ventricular Catheter,
120cm Peritoneal Catheter, Information
Manual, and Priming Adapter.***

^{*} Straight Connectors provided with Cylindrical and Micro versions only

^{**} Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

RIGHT ANGLE VALVE WITH SIPHONGUARD DEVICE

Product Code DescriptionCODMAN HAKIM Programmable Valve 82-3136 Right Angle Valve with SIPHONGUARD Device. Includes: Programmable Valve, 14cm Ventricular Catheter, 120cm Peritoneal Catheter, Information Manual, and Priming Adapter.*** 82-3146 CODMAN HAKIM Programmable Valve Right Angle Valve with SIPHONGUARD Device and Unitized Distal Catheter. Includes: Programmable Valve, 6'14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, and Priming Adapter.*** 82-3182 CODMAN HAKIM Programmable Valve Right Angle Valve with SIPHONGUARD Device. Includes: Programmable Valve, Information Manual, and Priming Adapter.*** **PROGRAMMERS**

Product Code Description

CODMAN HAKIM Valve Programmer 82-3190



82-3192 **CODMAN Valve Positioning Verification** (VPV™) System

- * Straight Connectors provided with Cylindrical and Micro versions only ** Introducers provided with Cylindrical versions only
- *** Priming Adapter provided with In-Line, Right Angle and Micro versions only

UNI-SHUNT

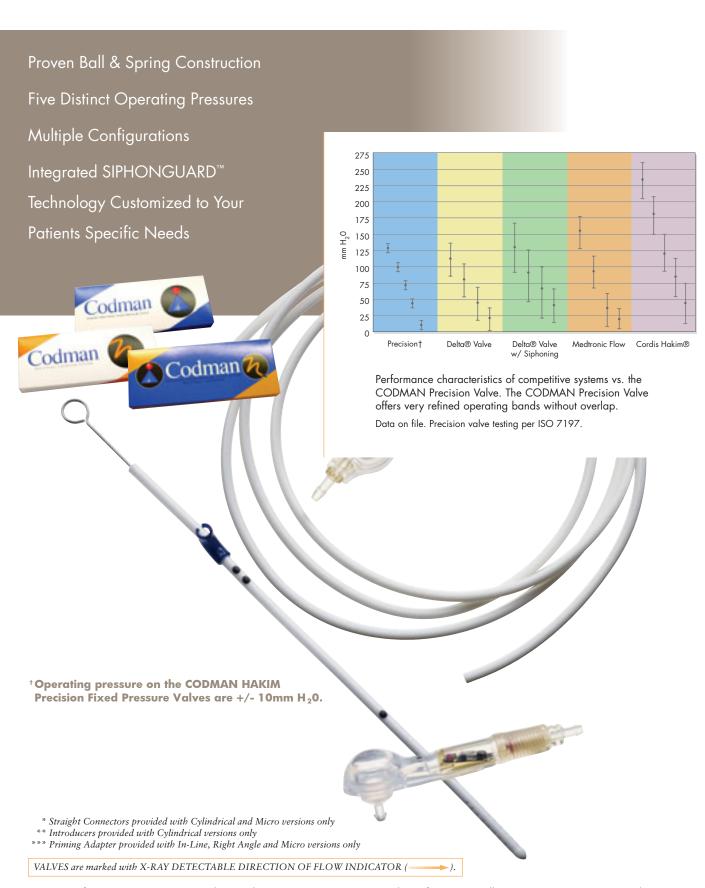
The UNI-SHUNT with Reservoir incorporates a double dome access port to facilitate injections and aspirations of CSF samples. It is a continuous length of barium impregnated silicone tubing with an access reservoir made of self sealing silicone which can be punctured with a 25 gauge or smaller Huber type needle. The catheter has rounded x-ray detectable tantalum ventricular and distal tips, x-ray detectable pressure markings at the distal tip, and x-ray detectable markings on the ventricular and peritoneal ends. The UNI-SHUNT catheter with Reservoir Kit is supplied sterile with the following: Blunt Tip Needle, 17 gauge, disposable, for flushing and testing purposes. Disposable Malleable Catheter Passer, short. Each 90cm and 102cm length kits also include one disposable Malleable Catheter Passer, long. UNI-SHUNT with Reservoir Anchoring Clips, two UNI-SHUNT with Reservoir Introducer. Marking Pen, sterile. Measuring Tape, non-sterile.



^{*}Note: The 53cm and 62cm length Reservoir Catheters have a distance of 11 cm's from the ventricular tip to the reservoir, the 78cm, 90cm, and 102cm length Reservoir Catheters have a distance of 13 cm's from the ventricular tip to the reservoir.

UNI-SHUNT WITH RESERVOIR KIT

| Product Code | Length | Closing Pressure (Measure in cm of water) |
|-----------------|--------|--|
| 82-8501 | 53cm | 2–5cm H ₂ O Low |
| 82-8502 | 53cm | 5–9cm H ₂ O Medium |
| 82-8511 | 62cm | 2-5cm H₂O Low |
| 82-8512 | 62cm | 5–9cm H ₂ O Medium |
| 82-8521 | 78cm | 2-5cm H₂O Low |
| 82-8522 | 78cm | 5–9cm H₂O Medium |
| 82-8531 | 90cm | 2-5cm H₂O Low |
| 82-8532 | 90cm | 5–9cm H₂O Medium |
| 82-8533 | 90cm | 9–14cm H₂O High |
| 82-8541 | 102cm | 2–5cm H₂O Low |
| 82-8542 | 102cm | 5–9cm H₂O Medium |
| 82-8543 | 102cm | 9–14cm H₂O Hiah |



CYLINDRICAL VALVES WITH PRE-CHAMBER

Valve Systems (Unitized)

CODMAN HAKIM Precision Fixed Pressure Valve, Cylindrical Valve with Pre-Chamber and Unitized Distal Catheter. Includes: Precision Fixed Pressure Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Straight Connector(s),* Introducer,** and Right Angle Adapter.

| | Product Code | Description |
|--|--------------|---|
| | 82-3006 | Cylindrical with pre-chamber Very Low, 10mm H ₂ O |
| | 82-3007 | Cylindrical with pre-chamber Low, 40mm H ₂ O |
| | 82-3008 | Cylindrical with pre-chamber Medium Low, 70mm H ₂ O |
| | 82-3009 | Cylindrical with pre-chamber Medium High, 100mm H ₂ O |
| | 82-3010 | Cylindrical with pre-chamber High, 130mm H ₂ O |

Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve, Cylindrical Valve with Pre-Chamber.
Includes: Precision Fixed Pressure Valve, Information Manual, Straight Connector(s),* Introducer.**



CYLINDRICAL VALVE WITHOUT PRE-CHAMBER

Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve, Cylindrical Valve without Pre-Chamber. Includes: Precision Fixed Pressure Valve, Information Manual, Straight Connector(s),* Introducer.**

| | Product Code | Description |
|--|--------------|--|
| | 82-3082 | Cylindrical Very Low, 10mm H ₂ O |
| | 82-3083 | Cylindrical Low, 40mm H ₂ O |
| | 82-3084 | Cylindrical Medium Low, 70mm H₂O |
| | 82-3085 | Cylindrical Medium High, 100mm H₂O |
| | 82-3086 | Cylindrical High, 130mm H₂O |

MICRO-VALVES

Valve Systems (Unitized)

CODMAN HAKIM Precision Fixed Pressure Valve, Micro Valve and Unitized Distal Catheter. Includes: Precision Fixed Pressure Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Straight Connector(s),* Right Angle Adapter, and Priming Adapter.***

| | Product Code | Description |
|--|--------------|---|
| | 82-3035 | Micro Very Low, 10mm H₂O |
| | 82-3036 | Micro Low, 40mm H₂O |
| | 82-3037 | Micro Medium Low , 70mm H ₂ O |
| | 82-3038 | Micro Medium High, 100mm H₂O |
| | 82-3039 | Micro High, 130mm H₂O |

Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve.

Includes: Precision Fixed Pressure Valve, Information Manual, Straight Connector(s),* and Priming Adapter.***

| | Product Code | Description |
|--|--------------|---------------------------------------|
| | 82-3026 | Micro Very Low, 10mm H₂O |
| | 82-3027 | Micro Low, $40 \text{mm H}_2\text{O}$ |
| | 82-3028 | Micro Medium Low, 70mm H₂O |
| | 82-3029 | Micro Medium High, 100mm H₂O |
| | 82-3030 | Micro High, 130mm H₂O |

^{*} Straight Connectors provided with Cylindrical and Micro versions only ** Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

MICRO VALVES WITH RICKHAM RESERVOIR

Valve Systems (Unitized)

CODMAN HAKIM Precision Fixed Pressure Valve, Micro Valve with RICKHAM Reservoir and Unitized Distal Catheter. Includes: Precision Fixed Pressure Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Straight Connector(s),* Introducer,** and Priming Adapter.***

| | Product Code | Description |
|--|--------------|---|
| | 82-3021 | Micro with RICKHAM Reservoir Very Low, 10mm H ₂ O |
| | 82-3022 | Micro with RICKHAM Reservoir Low, 40mm H ₂ O |
| | 82-3023 | Micro with RICKHAM Reservoir Medium Low, 70mm H ₂ O |
| | 82-3024 | Micro with RICKHAM Reservoir Medium High, 100mm H ₂ O |
| | 82-3025 | Micro with RICKHAM Reservoir High, 130mm H ₂ O |

Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve, Micro Valve with RICKHAM Reservoir.

Includes: Precision Pressure Valve, Information Manual, Straight Connector(s),* and Priming Adapter.***

| | Product Code | Description |
|--|--------------|---|
| | 82-3095 | Micro with RICKHAM Reservoir Very Low, 10mm H ₂ O |
| | 82-3096 | Micro with RICKHAM Reservoir Low, 40mm H ₂ O |
| | 82-3097 | Micro with RICKHAM Reservoir Medium Low, 70mm H₂O |
| | 82-3098 | Micro with RICKHAM Reservoir Medium High , 100mm H₂O |
| | 82-3099 | Micro with RICKHAM Reservoir High , 130mm H ₂ O |

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^{*} Straight Connectors provided with Cylindrical and Micro versions only

^{**} Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

IN-LINE VALVES

Valve Systems (Unitized)

CODMAN HAKIM Precision Fixed Pressure Valve, In-Line Valve and Unitized Distal Catheters.
Includes: Precision Pressure Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Right Angle Adapter, and Priming Adapter.***



Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve, In-Line Valve.
Includes: Precision Pressure Valves, Information Manual, and Priming Adapter.***



| Product Code | Description |
|--------------|--|
| 82-5471 | In-Line Very Low, 10mm H₂O |
| 82-5472 | In-Line Low, 40mm H ₂ O |
| 82-5473 | In-Line Medium Low, 70mm H ₂ O |
| 82-5474 | In-Line Medium High, 100mm H₂O |
| 82-5475 | In-Line High, 130mm H₂O |

^{*} Straight Connectors provided with Cylindrical and Micro versions only

^{**} Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

IN-LINE WITH SIPHONGUARD DEVICE Valve Systems (Unitized)

CODMAN HAKIM Precision Fixed Pressure Valve, In-Line Valve with SIPHONGUARD Device and Unitized Distal Catheter. Includes: Precision Pressure Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, Right Angle Adapter and Priming Adapter.***

| | Product Code | Description |
|--|--------------|---|
| | 82-3821 | In-Line with SIPHONGUARD Very Low, 10mm H ₂ O |
| | 82-3822 | In-Line with SIPHONGUARD Low, 40mm H ₂ O |
| | 82-3823 | In-Line with SIPHONGUARD Medium Low, 70mm H ₂ O |
| | 82-3824 | In-Line with SIPHONGUARD Medium High , 100 mm H $_2$ O |
| | 82-3825 | In-Line with SIPHONGUARD High, 130mm H₂O |

Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve, In-Line Valve with SIPHONGUARD Device. Includes: Precision Pressure Valve, Information Manual, and Priming Adapter.***

| | Product Code | Description |
|--|--------------|---|
| | 82-5461 | In-Line with SIPHONGUARD Very Low , 10mm H ₂ O |
| | 82-5462 | In-Line with SIPHONGUARD Low, 40mm H ₂ O |
| | 82-5463 | In-Line with SIPHONGUARD Medium Low, 70mm H ₂ O |
| | 82-5464 | In-Line with SIPHONGUARD Medium High, 100mm H₂O |
| | 82-5465 | In-Line with SIPHONGUARD High, 130mm H₂O |

^{*} Straight Connectors provided with Cylindrical and Micro versions only

^{**} Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

RIGHT ANGLE VALVES

Valve Systems (Unitized)

CODMAN HAKIM Precision Fixed Pressure Valve, Right Angle Valve and Unitized Distal Catheter. Includes: Precision Pressure Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, and Priming Adapter.***



Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve, Right Angle Valve. Includes: Precision Pressure Valves, Information Manual, and Priming Adapter.***

| | Product Code | Description |
|--|--------------|--|
| | 82-5491 | Right Angle Very Low, 10mm H₂O |
| | 82-5492 | Right Angle Low, 40mm H ₂ O |
| | 82-5493 | Right Angle Medium Low, 70mm H₂O |
| | 82-5494 | Right Angle Medium High, 100mm H ₂ O |
| | 82-5495 | Right Angle High, 130mm H₂O |

^{*} Straight Connectors provided with Cylindrical and Micro versions only

^{**} Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

RIGHT ANGLE WITH SIPHONGUARD DEVICE Valve Systems (Unitized)

CODMAN HAKIM Precision Fixed Pressure Valve, Right Angle Valve with SIPHONGUARD Device and Unitized Distal Catheter. Includes: Precision Pressure Valve, 14cm Ventricular Catheter, 120cm Unitized Peritoneal Catheter, Information Manual, and Priming Adapter.***



Valves Only

CODMAN HAKIM Precision Fixed Pressure Valve, Right Angle Valve with SIPHONGUARD Device. Includes: Precision Pressure Valve, Information Manual, and Priming Adapter.***

| | Product Code | Description |
|--|--------------|--|
| | 82-5481 | Right Angle with SIPHONGUARD Very Low, $10 \mathrm{mm} \mathrm{H}_2\mathrm{O}$ |
| | 82-5482 | Right Angle with SIPHONGUARD Low, 40mm H ₂ O |
| | 82-5483 | Right Angle with SIPHONGUARD Medium Low, 70mm H ₂ O |
| | 82-5484 | Right Angle with SIPHONGUARD Medium High, 100mm H ₂ O |
| | 82-5485 | Right Angle with SIPHONGUARD High, 130mm H₂O |

^{*} Straight Connectors provided with Cylindrical and Micro versions only

^{**} Introducers provided with Cylindrical versions only

^{***} Priming Adapter provided with In-Line, Right Angle and Micro versions only

RESERVOIRS, ACCU-FLO

ACCU-FLO CSF Reservoirs are made from one-piece puncturable silicone with an embedded plastic base, with suture holes for anchoring. Each reservoir has been pre-tested for pressure leaks and is packaged sterile.

Note: A 25 gauge, or smaller, "Huber" type needle should be used to puncture the ACCU-FLO Reservoirs. ACCU-FLO Reservoirs are used for ventricular medication or aspiration.



82-6100 ACCU-FLO CSF Reservoir, 14mm, sterile, fits 14mm burr hole.

82-6101 ACCU-FLO CSF Reservoir, 24mm, sterile, fits 24mm burr hole.

ACCU-FLO Reservoirs, used in line in

the ACCU-FLO System, between the ventricular portion and distal catheter portion. Each reservoir has suture holes for anchoring purposes.

82-1401

ACCU-FLO Burr Hole Reservoir.



2-1401 ACCU-FLO Burr Hole Reservoir, 14mm, sterile



82-1411 ACCU-FLO Single Dome Flat Bottom Reservoir, sterile, with reinforced backing.

and stylet, both sterile.

VENTRICULOSTOMY RESERVOIRS, HOLTER

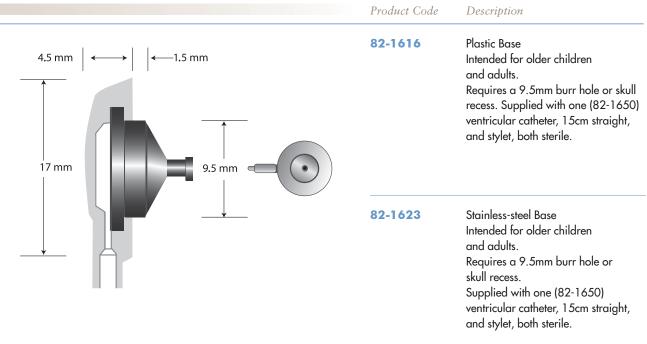
The HOLTER Reservoirs have a stainless steel or plastic base; removable, puncturable silicone rubber cap for convenience. Each is supplied with: (82-1650) Ventricular Catheter, 15cm straight, Ventricular Catheter stylet, sterile.

HOLTER, RICKHAM standard, sterile

Product Code Description82-1615 Plastic Base 2 mm Requires a 6mm burr hole or skull recess. Supplied with one (82-1650) Ventricular Catheter, 15cm straight, and stylet, both sterile. 11 mm 82-1621 Stainless-steel Base Requires a 6mm burr hole or skull recess. Supplied with one (82-1650) Ventricular Catheter, 15cm straight,

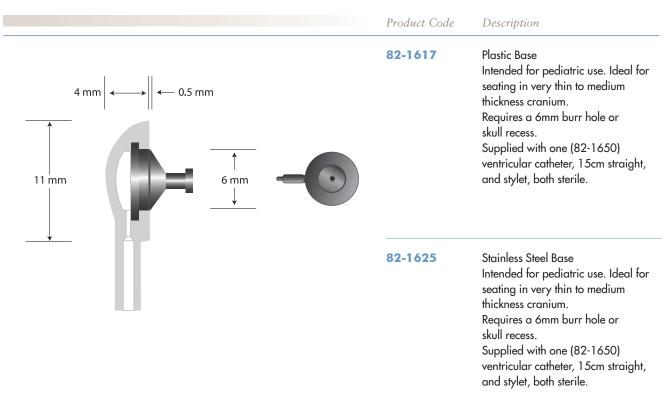
^{*}Note: A 25 gauge "Huber" type needle or smaller should be used to puncture HOLTER reservoirs.

HOLTER, RICKHAM large, sterile



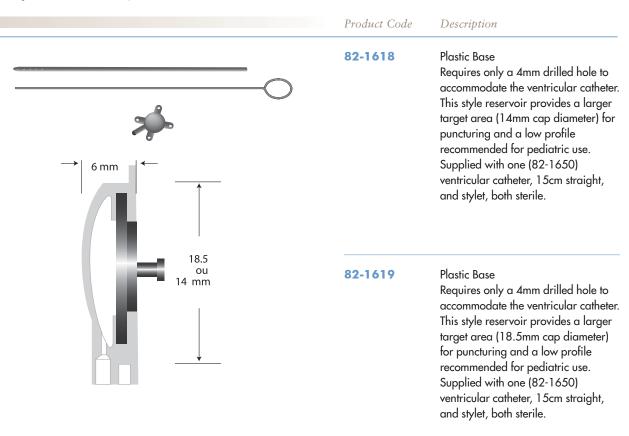
^{*}Note: A 25 gauge "Huber" type needle or smaller should be used to puncture HOLTER reservoirs.

HOLTER, SALMON-RICKHAM low profile, sterile



 $^{{}^*\}mathrm{Note}$: A 25 gauge "Huber" type needle or smaller should be used to puncture HOLTER reservoirs.

HOLTER, SELKER small, sterile



*Note: A 25 gauge "Huber" type needle or smaller should be used to puncture HOLTER reservoirs.

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CONNECTORS, ACCU-FLO

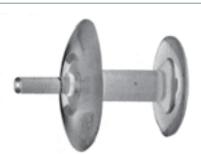
All ACCU-FLO Connectors are 316-L stainless steel or plastic, 1.0mm I.D. \times 1.9mm O.D. with beveled ends. Each is x-ray detectable and packaged sterile. The connectors are grooved to hold sutures for preventing catheter disconnection.

| | Product Code | Description |
|----------------|--------------|---|
| CONTRACT LINES | 82-1501 | Metal ACCU-FLO Straight Connector, sterile. Metal Length 11mm |
| | 82-1504 | Plastic ACCU-FLO Straight Connector, sterile. Plastic Length 17mm |
| | 82-1507 | Plastic ACCU-FLO Right Angle Connector, sterile. |
| | 82-1511 | Metal ACCU-FLO Right Angle Connector, sterile |
| | 82-1520 | Plastic ACCU-FLO Three Way Connector, Y-shaped, sterile, with a straight plastic non-spring connector in each leg. |
| | 82-1521 | Metal ACCU-FLO Three Way Connector, Y-shaped, sterile, with a straight metal non-spring connector in each leg. |

CONNECTORS, HAKIM

| | Product Code | Description |
|--------------------|--------------------------------|--|
| | 82-3048 | HAKIM Straight Connector Stainless steel (1.07mm I.D. x 2.08mm O.D.) Sterile |
| | 82-3049 | HAKIM Right Angle Connector Stainless steel (1.02mm I.D. x 1.91mm O.D.) Sterile |
| | 82-3053 | BIOPLATE™ 1 package of 1 each Connector titanium Length 14cm |
| | | Sterile |
| CONNECTORS, HOLTER | | Sterile |
| CONNECTORS, HOLTER | Product Code | Sterile Description |
| CONNECTORS, HOLTER | Product Code 82-1694 | |
| CONNECTORS, HOLTER | | Description HOLTER Type A Connector, stainless steel, five per pack, non-sterile. |

BURR HOLE BUTTONS, ACCU-FLO



Product Code

Description

82-6010

ACCU-FLO Burr Hole Buttons, sterile, 10 per package, individually wrapped. These buttons secure the bone flap into place, eliminating the need to wire the bone flap after a craniotomy. They allow slight flap movement in case of swelling after surgery.

Button length 35mm

Cover diameter 29mm

Stem thickness 4.1mm

BURR HOLE COVERS, ACCU-FLO

_

Description

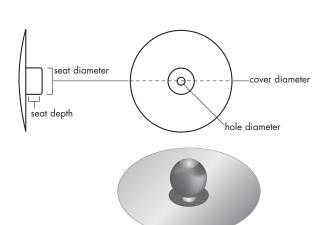
82-6025

Product Code

ACCU-FLO Burr Hole Covers, sterile, 10 per package individually wrapped. Each burr hole cover has a low profile design to fit into a burr hole after cranial surgery. There is a center hole for insertion of a ventricular needle, if needed postoperatively. Hole diameter 3mm

Cover diameter 35mm

Silicone rubber
Seat diameter 10mm



ADAPTER

Product Code

Description

Seat depth 6mm



82-3052

Right Angle Adapter, plastic Sterile

ANCHORING CLIP, UNI-SHUNT

| Product Code | Description |
|--------------|--|
| 82-8591 | UNI-SHUNT with Reservoir Anchoring Clip, sterile, two clips per package. A one-piece right angle clip, used to anchor the ventricular and distal ends of the UNI-SHUNT with reservoir catheter in position. Each UNI-SHUNT with reservoir catheter kit is supplied with two (82-8591) Anchoring Clips. |
| | |

VENTRICULAR CANNULAS, ELSBERG

Silver, graduated in centimeters, closed end, three side holes

| Product Code | Diameter | Length |
|--------------|----------|------------|
| 16-1015 | 5 Fr. | 4" (102mm) |
| 16-1016 | 7 Fr. | 4" (102mm) |
| 16-1017 | 9 Fr. | 4" (102mm) |

VENTRICULAR CANNULAS, SCOTT

Scott Ventricular Cannulas, 8 Fr., disposable, sterile, five per box. One cap and one stylet provided in each package.

| Product Code | Length |
|--------------|---|
| 16-1055 | 3 1/8" (80mm) |
| 16-1056 | 3 ⁷ / ₈ " (100mm) |

CATHETER PASSERS, MALLEABLE (Disposable)

Malleable Catheter Passers, used to pass the distal catheter to the peritoneum. Each 90cm and 102cm UNI-SHUNT Catheter Kit is also supplied with one long catheter passer.

| supplied with one long catheter passer. | | |
|---|--------------|--|
| | Product Code | Description |
| | 82-1515 | Malleable Catheter Passer, short, sterile, disposable. Packaged individually, six per case. Length 36cm |
| | 82-1516 | Malleable Catheter Passer, long, sterile, disposable. Packaged individually, six per case. Length 55cm |
| | 82-1517 | Malleable Catheter Passer, x-long, sterile, disposable. Packaged individually, six per case. Length 65cm |
| CATHETER PASSER (Reusable) | | |
| | Product Code | Description |
| | 82-1692 | HOLTER Distal Catheter Passer, Salmon style, stainless steel, non-sterile. Used for subcutaneous passage and placement of an atrial or peritoneal catheter. The catheter is passed through the tubular body of the instrument. Tube I.D. 3.2mm Tube O.D. 4.2mm Total length 35.5cm |
| HOLTER | | |
| | Product Code | Description |
| | 82-1693 | HOLTER Distal Catheter Placement Instrument, stainless steel, non-sterile For the subcutaneous passage and placement of the distal peritoneal catheter. Rod O.D. 3.2mm Tip 7mm Hole Diameter 2.75mm Total length 56cm |

HOFFMAN SHUNT PASSER

| | Product Code | Description |
|---------------|--------------|---|
| | 82-1715 | Hoffman Shunt Passer, short, stainless steel, non-sterile Tube I.D. 3.2mm Tube O.D. 4.2mm Total length 45.7cm |
| SPLIT TROCAR | 82-1716 | Hoffman Shunt Passer, long, stainless steel, non-sterile Tube I.D. 3.2mm Tube O.D. 4.2mm Total length 61.0cm |
| | Product Code | Description |
| | 82-4095 | Split Trocar, sterile, disposable. For the placement of the UNI-SHUNT Catheter in both the ventricle and peritoneum. The unique open/close obturator prevents excessive loss of CSF in the ventricle. Packaged in one each. Length 10cm |
| OUHY NEEDLE | | |
| | Product Code | Description |
| | 45-1020 | Touhy Needle, 14 Gauge, non-sterile, used for the insertion of the JAMES Lumboperitoneal Catheter. Length 3 ½" (90mm) I.D063 inches O.D083 inches Needle length given is exclusive of hub and stylet. |
| CRANIAL CLIPS | | |
| | Product Code | Description |
| | 82-4092 | Right angle Cranial Clip with tabs, sterile, two clips per package. |

HOLTER SHUNT FILTER

Product Code

Description

82-1697



HOLTER In-Line Shunt Filter, sterile. A 3.9 micron cellulosic filter designed specifically for use with the HOLTER Shunt System to prevent the transfer of cells larger than 3.9 microns through the system. The filter has a surface area of 68 square millimeters supported in a stainless steel mesh and totally encased in silicone. The silicone casing contains an inlet and outlet port, both with an I.D. of 1.5mm, for connection to the shunt system. The filter can be implanted just behind the mastoid air cells so it is exposed to the radiotherapy field, if radiotherapy is used. The HOLTER In-Line Shunt Filter is packaged sterile. Each package contains one filter and two sterile (82-1694) HOLTER Type A connectors.

ICP LUER-LOCK

Product Code

Description

16-1057



CODMAN Disposable ICP Luer Lock Connector, sterile, consists of a female luer lock connector and a male luer lock cap. Designed to connect a silicone ventricular catheter (I.D. from 1.3mm to 1.5mm) to a CSF drainage or monitoring device. May be used to occlude ventricular catheter by utilizing male luer lock cap.

INTRODUCER, UNI-SHUNT

82-8594 WNI-SHUNT with Reservoir Introducer, sterile, disposable. Used to place the proximal end of the UNI-SHUNT with Reservoir Catheter into the ventricle. Each UNI-SHUNT with Reservoir Catheter Kit is supplied with one (82-8594) Introducer. Product Code Description 82-3055 HAKIM Valve Introducer

SIPHONGUARD ANTI-SIPHON DEVICE

| Product Code | Description |
|--------------|--|
| 82-3090 | SIPHONGUARD CSF Flow Control Device |

U-CHANNEL STRIPPING

| Product Code | Description |
|--------------|---|
| 82-6001 | U-CHANNEL Stripping, sterile. A preformed U-shaped silicone rubber used in the treatment of cranial stenosis. Packaged two strippings per box. Thickness .5mm Width 10mm Length 150mm |

| Product Code Page | Product Code Page | Product Code Page | Product Code Page | Product Code Page |
|--------------------------|-------------------|-------------------|-------------------|-------------------|
| 16-1015 31 | 82-1634 9 | 82-3027 18 | 82-3162 12 | 82-5473 20 |
| 16-1016 31 | 82-1636 9 | 82-3028 18 | 82-3164 13 | 82-5474 20 |
| 16-1017 31 | 82-1638 9 | 82-3029 18 | 82-3182 14 | 82-5475 20 |
| 16-1055 31 | 82-1640 9 | 82-3030 18 | 82-3184 13 | 82-5481 23 |
| 16-1056 31 | 82-1642 9 | 82-3035 18 | 82-3190 14 | 82-5482 23 |
| 16-1057 34 | 82-1650 9 | 82-3036 18 | 82-3192 14 | 82-5483 23 |
| 45-1020 33 | 82-1652 9 | 82-3037 18 | 82-3261 23 | 82-5484 23 |
| | 82-1654 9 | 82-3038 18 | 82-3262 23 | 82-5485 23 |
| 82-1201 8 | 82-1658 9 | 82-3039 18 | 82-3263 23 | 82-5491 22 |
| 82-1203 8 | 82-1660 9 | 82-3041 9 | 82-3264 23 | 82-5492 22 |
| 82-1221 8 | 82-1662 9 | 82-3044 4 | 82-3265 23 | 82-5493 22 |
| 82-1231 8 | 82-1670 4 | 82-3045 7 | 82-3281 22 | 82-5494 22 |
| 82-1232 8 | 82-1676 4 | 82-3048 29 | 82-3282 22 | 82-5495 22 |
| 82-1233 8 | 82-1682 7 | 82-3049 29 | 82-3283 22 | 82-6001 35 |
| 82-1234 8 | 82-1684 7 | 82-3052 30 | 82-3284 22 | 82-6010 30 |
| 82-1301 6 | 82-1692 32 | 82-3053 29 | 82-3285 22 | 82-6025 30 |
| 82-1302 6 | 82-1693 32 | 82-3055 35 | 82-3806 20 | 82-6100 24 |
| 82-1303 6 | 82-1694 29 | 82-3072 3 | 82-3807 20 | 82-6101 24 |
| 82-1380 6 | 82-1695 29 | 82-3073 3 | 82-3808 20 | 82-6200 5 |
| 82-1401 24 | 82-1696 29 | 82-3074 3 | 82-3809 20 | 82-6201 5 |
| 82-1411 24 | 82-1697 34 | 82-3082 17 | 82-3810 20 | 82-6202 5 |
| 82-1501 28 | 82-1698 5 | 82-3083 17 | 82-3821 21 | 82-8501 15 |
| 82-1504 28 | 82-1699 5 | 82-3084 17 | 82-3822 21 | 82-8502 15 |
| 82-1507 28 | 82-1715 33 | 82-3085 17 | 82-3823 21 | 82-8511 15 |
| 82-1511 28 | 82-1716 33 | 82-3086 17 | 82-3824 21 | 82-8512 15 |
| 82-1515 32 | 82-3006 17 | 82-3090 35 | 82-3825 21 | 82-8521 15 |
| 82-1516 32 | 82-3007 17 | 82-3095 19 | 82-3832 12 | 82-8522 15 |
| 82-1517 32 | 82-3008 17 | 82-3096 19 | 82-3834 13 | 82-8531 15 |
| 82-1520 28 | 82-3009 17 | 82-3097 19 | 82-3838 13 | 82-8532 15 |
| 82-1521 28 | 82-3010 17 | 82-3098 19 | 82-3842 12 | 82-8533 15 |
| 00 1415 05 | 82-3011 17 | 82-3099 19 | 82-3844 13 | 82-8541 15 |
| 82-1615 25 82-1616 26 | 82-3012 17 | 82-3110 11 | 82-4092 33 | 82-8542 15 |
| 82-1617 26 | 82-3013 17 | 82-3111 11 | 82-4095 33 | 82-8543 15 |
| 82-1618 27 | 82-3014 17 | 82-3112 12 | 82-5461 21 | 82-8591 31 |
| 82-1619 27 | 82-3015 17 | 82-3113 11 | 82-5462 21 | 82-8594 35 |
| 82-1621 25 | 82-3021 19 | 82-3114 12 | 82-5463 21 | |
| 82-1623 26 | 82-3022 19 | 82-3115 11 | 82-5464 21 | 83-1371 9 |
| 82-1625 26 | 82-3023 19 | 82-3116 11 | 82-5465 21 | NS-0038 3 |
| 82-1630 9 | 82-3024 19 | 82-3136 14 | 82-5471 20 | NS-0339 3 |
| 82-1632 9 | 82-3025 19 | 82-3146 14 | 82-5472 20 | NS-0340 3 |
| 02 1002 / | 82-3026 18 | 82-3148 13 | | NS-0343 3 |

Product Information Indications

CATHETERS

• For use in the treatment of hydrocephalus as a component of a shunt system when draining or shunting cerebrospinal fluid (CSF) is indicated.

- The ACCU-FLO CSF Reservoir, when attached to a ventricular catheter, is designed to provide direct access to the lateral cerebral ventricles for aspiration and the injection of medication, and to cystic tumors for chronic drainage or the injection of chemotherapeutic agents and/or radioisotopes via a syringe fitted with a 25-gauge, or smaller, HUBER-point needle through the reservoir dome.
- The Ventriculostomy Reservoir Set (Rickham and SALMON-Rickham Designs) is indicated for use to gain access to the cerebral ventricles or other intracranial cavities for the purpose of diagnostic studies or therapeutic drug administration with or without a shunting device. When used with the shunting device, the ventriculostomy reservoir is also indicated for the use as the proximal fluid pathway.
- The UNI-SHUNT with Reservoir Catheter is intended for use as a one-piece ventriculo-peritoneal shunt system for the palliative treatment of hydrocephalus. No other use is recommended.

VAIVES

The CODMAN HAKIM Precision and Fixed Pressure Valves and Systems are implantable devices that provide constant intraventricular pressure and drainage of CSF for the management of hydrocephalus

CONNECTORS

- The ACCU-FLO Connectors can be utilized as a component in systems designed to shunt cerebrospinal
 fluid from the lateral ventricles into the right atrium of the heart or the peritoneal cavity, providing they
 are used in the joining and fixation of approximately 1.3 mm nominal I.D. silicone rubber tubing with
 nonabsorbable sutures in a surgical application.
- The HAKIM Connectors are for use in the treatment of hydrocephalus as a component of a shunt system when draining or shunting of cerebrospinal fluid (CSF) is indicated.
 The BIOPLATE Titanium Shunt Connector (Sterile) is indicated for use in the joining and fixation of silicone catheters, valves, and other components of a system for ventriculoatrial or ventriculoperitoneal shunting of cerebrospinal fluid (CSF). The use of nonabsorbable sutures is required.
 The HOLTER Type T Fixation and Joining Connector is indicated for use in the joining and fixation of 1.5 mm normal I.D. silicone rubber twing with non-absorbable sutures in a surgical application.
- The HOLTER Type A Fixation and Joining Connector is indicated for use in the joining and fixation of 1.2 mm normal I.D. silicone rubber tubing with non-absorbable sutures in a surgical application.
- The HOLTER Type B Fixation and Joining Connector is indicated for use in the joining and fixation of 0.8 mm normal I.D. silicone rubber tubing to 1.2 mm nominal I.D. silicone rubber tubing, and specifically, catalog no. 82-1672, with nonabsorbable sutures in a surgical application.

ACCESSORIES

- The ACCU-FLO Burr Hole Button is indicated for use as a means to secure the bone flap after a craniotomy procedure, eliminating the need to wire the bone flap in place. The Burr Hole Button is designed to permit slight movement of the flap due to swelling after surgery.
 The Silicone ACCU-FLO Burr Hole Cover is intended for use as a protective fill in a burr hole after cranial surgery. The Silicone Burr Hole Cover also provides temporary access to the ventricles if required postoperatively.
- The CODMAN Right Angle Adapter is for use in the treatment of hydrocephalus as a component of a shunt system when draining or shunting of cerebrospinal fluid (CSF) is indicated to secure the ventricular catheter.
- The UNI-SHUNT with Reservoir Anchoring Clips are designed for use with the UNI-SHUNT with Reservoir Catheter. They are used to secure the ventricular and distal ends of the catheter. Use of the anchoring clips on the cranium and on the peritoneum is strongly recommended to maintain the position of the catheter.
- The Disposable Scott Cannula provides a means to monitor ventricular pressure, to inject drugs and chemotherapeutic agents into the ventricular cavities, to allow x-ray analyses to be performed, and to extract CSF.
- The Disposable Catheter Passer is indicated for use as a subcutaneous guide in the placement of a hydrocephalic catheter for ventriculo-peritoneal shunting of CSF.
 The Salmon Tube Passer is indicated for use in the subcutaneous passage and placement of an atrial or peritoneal catheter in the treatment of hydrocephalus.
 The HOLTER Peritoneal Catheter Placement Instrument is indicated for subcutaneous passage and placement of the peritoneal catheter in the treatment of hydrocephalus.
- The In-Line Shunt Filter is indicated for use to filter particles that are larger than approximately 3.9
 microns when neoplasm is suspected and when shunting is the procedure of choice in the treatment of
 hydrocephalus.
- The SIPHONGUARD device can be used as a component of hydrocephalus shunt systems designed to shunt CSF from the lateral ventricles of the brain into the peritoneal cavity or right atrium of the heart. The SIPHONGUARD device is designed to reduce the potential hazards of excessive lowering of intraventricular pressure (with respect to atmospheric pressure) when a patient is in an erect position.



325 Paramount Drive, Raynham, MA 02767 • (508) 880-8100

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