



WE UNDERSTAND.



NEUROSURGERY

ACCESSORIES FOR MIETHKE SHUNT SYSTEMS

PRIEDAI MIETHKE ŠUNTAVIMO SISTEMOMS

ACCESSORIES

CATHETERS



- All catheters are made of radio-paque silicone

$d_i = 1.2 \text{ mm}$

$d_o = 2.5 \text{ mm}$

PERITONEAL CATHETERS, BARIUM-IMPREGNATED



| Art. no. | Length |
|---------------|--------------------|
| FV070P | 600 mm |
| FV071P | 900 mm |
| FV072P | 21. 1200 mm |

PERITONEAL CATHETER WITH INTEGRATED BARIUM STRIP



| Art. no. | Length |
|----------|---------|
| FV091P | 900 mm |
| FV090P | 1200 mm |

VENTRICULAR CATHETER WITH INTRODUCING STYLET, GRADUATED, BARIUM-IMPREGNATED, 8 BORES (16 HOLES)



| Art. no. | Length |
|----------|--------|
| FV074P | 180 mm |
| FV077P | 250 mm |

- All catheters are made of radio-paque silicone

$d_i = 1.2 \text{ mm}$
 $d_o = 2.5 \text{ mm}$

- Design acc. Dr. Thomale

Deflector:

- With suture fixation hole
- Made of titanium
- Radiopaque
- Allows 90° deflection of the ventricular catheter in the burrhole without kinking the catheter
- Adjustable on catheter
- Allows precise setting of the penetration depth of the ventricular catheter prior to implantation

THOMALE KATHETER WITH STYLET, GRADUATED, BARIUM-IMPREGNATED, 3 BORES (6 HOLES)



| Art. no. | Length |
|----------|--------|
| FV093P | 180 mm |

VENTRICULAR CATHETER WITH DEFLECTOR



| Art. no. | Set |
|------------|---|
| FV075P | <ul style="list-style-type: none"> Ventricular catheter, 180 mm, with stylet, graduated Deflector, large, 16 mm |
| FV078P 20. | <ul style="list-style-type: none"> Ventricular catheter, 250 mm, with stylet, graduated Deflector, large, 16 mm |



| Art. no. | Set |
|----------|---|
| FV076P | <ul style="list-style-type: none"> Ventricular catheter, 180 mm, with stylet, graduated Deflector, small, 13 mm |

ACCESSORIES

DEFLECTORS

- With suture fixation hole
- Made of titanium
- Radiopaque
- Allows 90° deflection of the ventricular catheter in the burrhole without kinking the catheter
- Adjustable on catheter

DEFLECTORS



16 mm



9.5 mm

| Art. no. | Deflector |
|----------|--------------|
| FV010T | large, 16 mm |



13 mm



3 mm

| Art. no. | Pediatric deflector |
|----------|---------------------|
| FV011T | small, 13 mm |

PORTS

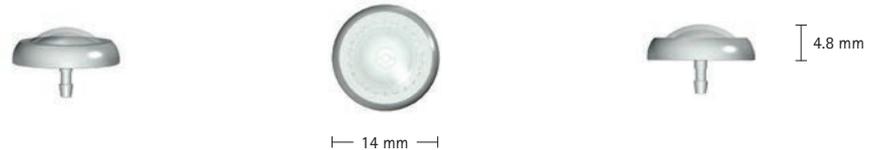
- Made of titanium
- Radiopaque
- Low overall height for easy and reliable positioning and fixation of the ventricular catheter
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Solid titanium base preventing penetration with a syringe needle

BURRHOLE PORTS

FV030T:



FV040T:



| Art. no. | Ports |
|----------|--------------|
| FV030T | large, 20 mm |
| FV040T | small, 14 mm |

PORT SET



| Art. no. | Set |
|----------|--|
| FV042T | <ul style="list-style-type: none"> ▪ Port, small, 14 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated |

Connector: $d_o = 1.9 \text{ mm}$
 Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

ACCESSORIES

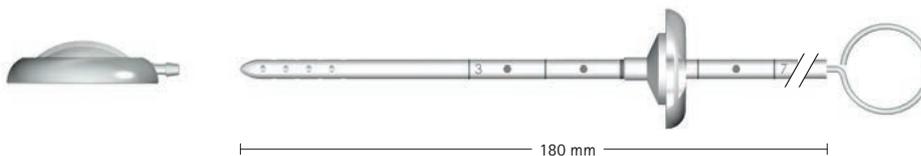
PORTS

- Made of titanium
- Radiopaque
- Low overall height for easy and reliable positioning and fixation of the ventricular catheter
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Solid titanium base preventing penetration with a syringe needle

CSF-PORT



| Art. no. | CSF-Port |
|----------|--------------|
| FV060T | large, 20 mm |



| Art. no. | Set |
|----------|---|
| FV062T | <ul style="list-style-type: none"> ▪ CSF-Port, large, 20 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated ▪ Deflector, large, 16 mm |

Connector: $d_o = 1.9 \text{ mm}$

Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

BURRHOLE RESERVOIR

- Made of titanium
- Radiopaque
- Low overall height for easy and reliable positioning and fixation of the ventricular catheter
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Solid titanium base preventing penetration with a syringe needle
- A pediatric Burrhole Reservoir is also available, it is adapted to the size of a child's skull

BURRHOLE RESERVOIR

FV028T:



FV029T:



FV039T:



FV027T:



FV054T:



| Art. no. | Burrhole Reservoir |
|----------|---|
| FV028T | large, 20 mm |
| FV029T | ETOU Reservoir, large, 20 mm, with adjustable connector |
| FV039T | small, 14 mm |
| FV027T | large, 20 mm, with catheter, 600 mm |
| FV054T | small, 14 mm, with catheter, 200 mm |

Connector: $d_o = 1.9 \text{ mm}$
 Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

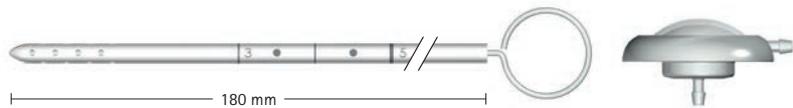
ACCESSORIES

BURRHOLE RESERVOIR

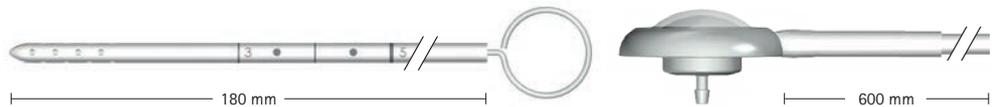
- Made of titanium
- Radiopaque
- Low overall height for easy and reliable positioning and fixation of the ventricular catheter
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Solid titanium base preventing penetration with a syringe needle

BURRHOLE RESERVOIR SET

FV032T:

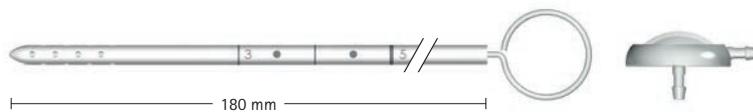


FV031T:

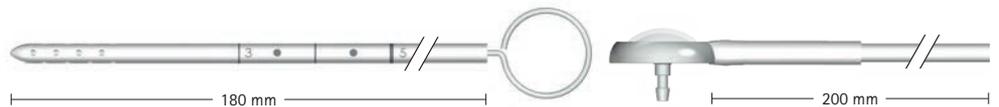


| Art. no. | Set |
|----------|---|
| FV032T | <ul style="list-style-type: none"> ▪ Burrhole Reservoir, large, 20 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated |
| FV031T | <ul style="list-style-type: none"> ▪ Burrhole Reservoir, large, 20 mm, with catheter, 600 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated |

FV041T:



FV055T:



| Art. no. | Set |
|----------|---|
| FV041T | <ul style="list-style-type: none"> ▪ Burrhole Reservoir, small, 14 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated |
| FV055T | <ul style="list-style-type: none"> ▪ Burrhole Reservoir, small, 14 mm, with catheter, 200 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated |

Connector: $d_o = 1.9 \text{ mm}$
 Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

McLANAHAN RESERVOIR

- Made of titanium
- Radiopaque
- Allows checking the patency of both the ventricular catheter and the distal catheter
- Allows for CSF extraction and controlled drug injection into the ventricles
- Integrated mechanism shutting off the proximal connection to the ventricular catheter during pumping
- Integrated mechanism shutting off the distal connection during injection with syringe needle
- Design acc. to Dr. McLanahan

McLANAHAN RESERVOIR

FV082T:



| Art. no. | McLANAHAN RESERVOIR |
|----------|---------------------|
| FV082T | large, 20 mm |

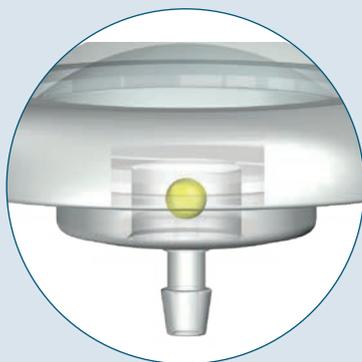
Connector: $d_o = 1.9 \text{ mm}$

ACCESSORIES

SPRUNG RESERVOIR

- Made of titanium
- Radiopaque
- Allows checking the patency of both the ventricular catheter and the distal catheter
- Solid titanium base preventing penetration with a syringe needle
- Integrated mechanism shutting off the proximal connection to the ventricular catheter during pumping
- Design acc. to Dr. Sprung

Mechanism:



Connector: $d_o = 1.9 \text{ mm}$
 Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

SPRUNG RESERVOIR

FV043T:



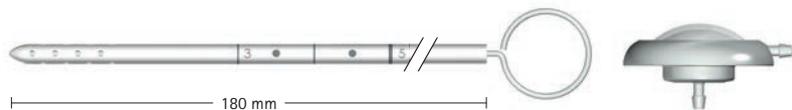
FV044T:



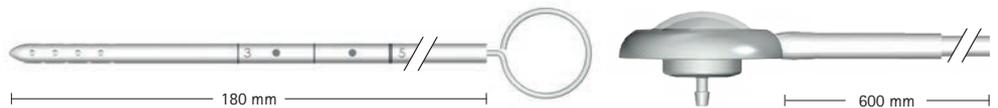
| Art. no. | SPRUNG RESERVOIR |
|----------|-------------------------------------|
| FV043T | large, 20 mm |
| FV044T | large, 20 mm, with catheter, 600 mm |

SPRUNG RESERVOIR SET

FV045T:



FV046T:

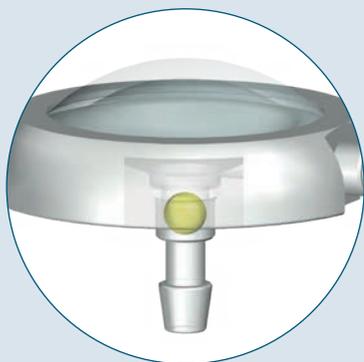


| Art. no. | Set |
|----------|--|
| FV045T | <ul style="list-style-type: none"> ▪ <i>SPRUNG RESERVOIR</i>, large, 20 mm ▪ Ventricular catheter, 180 mm, with stilet, graduated |
| FV046T | <ul style="list-style-type: none"> ▪ <i>SPRUNG RESERVOIR</i>, large, 20 mm, with catheter, 600 mm ▪ Ventricular catheter, 180 mm, with stilet, graduated |

PEDIATRIC SPRUNG RESERVOIR

- Made of titanium
- Radiopaque
- Allows checking the patency of both the ventricular catheter and the distal catheter
- Solid titanium base preventing penetration with a syringe needle
- Integrated mechanism shutting off the proximal connection to the ventricular catheter during pumping
- Design acc. to Dr. Sprung
- Adapted to the size of a child's skull

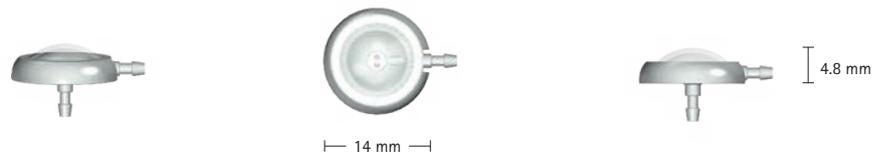
Mechanism:



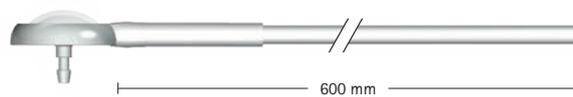
Connector: $d_o = 1.9 \text{ mm}$
 Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

PEDIATRIC SPRUNG RESERVOIR

FV063T:



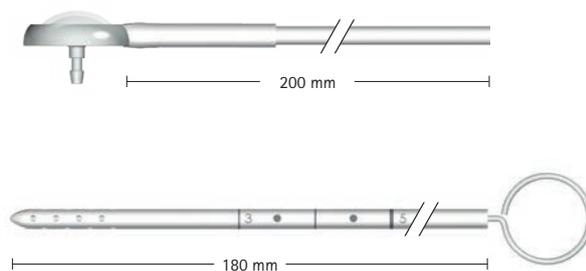
FV064T:



| Art. no. | Pediatric SPRUNG RESERVOIR |
|----------|-------------------------------------|
| FV063T | small, 14 mm |
| FV064T | small, 14 mm, with catheter, 600 mm |

PEDIATRIC SPRUNG RESERVOIR SET

FV065T:



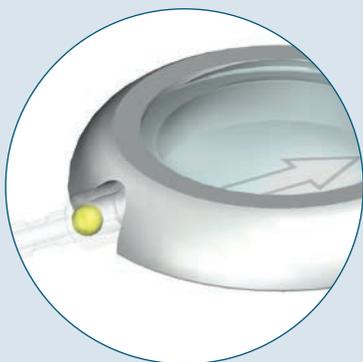
| Art. no | Set |
|---------|---|
| FV065T | <ul style="list-style-type: none"> ▪ pediatric SPRUNG RESERVOIR, small, 14 mm, with catheter, 200 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated |

ACCESSORIES

CONTROL RESERVOIR

- Made of titanium
- Radiopaque
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Allows checking the patency of both the ventricular catheter and the distal catheter
- Solid titanium base preventing penetration with a syringe needle
- Integrated valve mechanism shutting off the proximal connection to the ventricular catheter during pumping

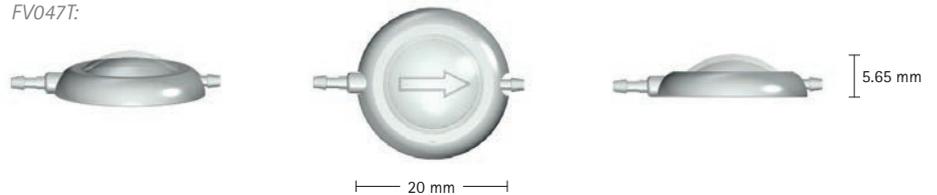
Mechanism:



Connector: $d_o = 1.9 \text{ mm}$
Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

CONTROL RESERVOIR

FV047T:



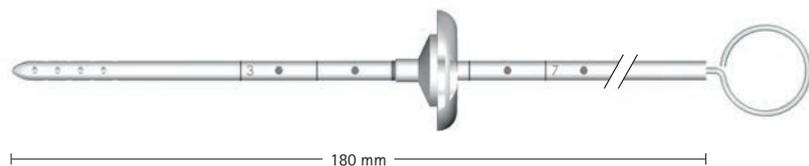
FV048T:



| Art. no. | CONTROL RESERVOIR |
|----------|-------------------------------------|
| FV047T | large, 20 mm |
| FV048T | large, 20 mm, with catheter, 600 mm |

CONTROL RESERVOIR SET

FV049T:

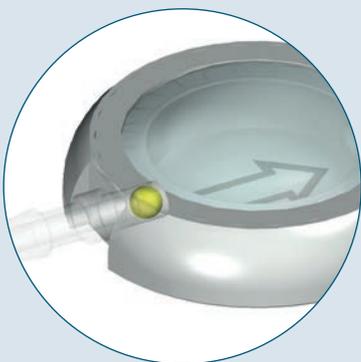


| Art. no. | Set |
|----------|---|
| FV049T | <ul style="list-style-type: none"> ▪ CONTROL RESERVOIR, large, 20 mm, with catheter, 600 mm ▪ Ventricular catheter, 180 mm, with stylet, graduated, deflector, large, 16 mm |

PEDIATRIC CONTROL RESERVOIR

- Made of titanium
- Radiopaque
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Allows checking the patency of both the ventricular catheter and the distal catheter
- Solid titanium base preventing penetration with a syringe needle
- Integrated valve mechanism shutting off the proximal connection to the ventricular catheter during pumping
- Adapted to the size of a child's skull

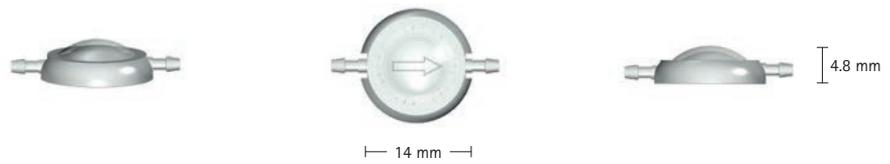
Mechanism:



Connector: $d_o = 1.9 \text{ mm}$
 Catheter: $d_i = 1.2 \text{ mm}$, $d_o = 2.5 \text{ mm}$

PEDIATRIC CONTROL RESERVOIR

FV066T:



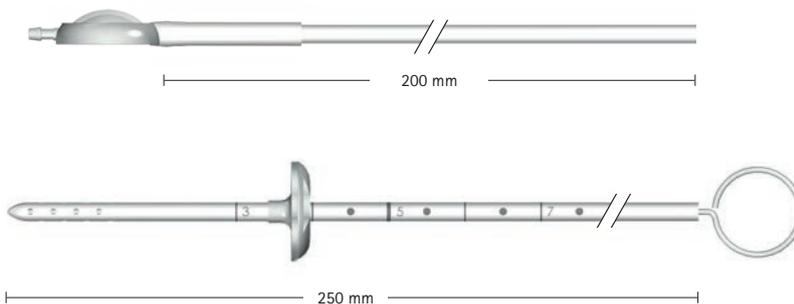
FV067T:



| Art. no. | Pediatric CONTROL RESERVOIR |
|----------|-------------------------------------|
| FV066T | small, 14 mm |
| FV067T | small, 14 mm, with catheter, 600 mm |

PEDIATRIC CONTROL RESERVOIR SET

FV068T:



| Art. no. | Set |
|----------|---|
| FV068T | <ul style="list-style-type: none"> ▪ pediatric CONTROL RESERVOIR, small, 14 mm, with catheter, 200 mm ▪ Ventricular catheter, 250 mm, with stylet, graduated with pediatric deflector, small, 13 mm |

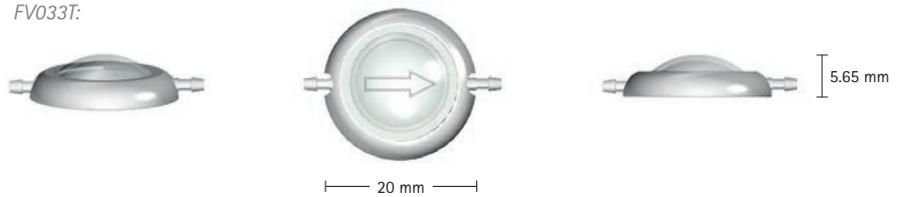
ACCESSORIES

PRECHAMBER

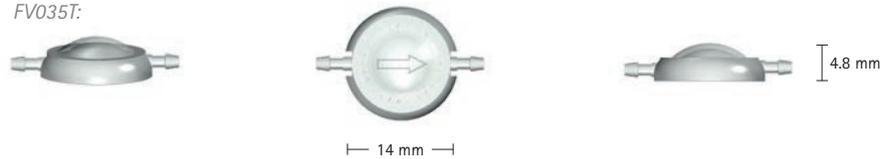
- Made of titanium
- Radiopaque
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Solid titanium base preventing penetration with a syringe needle

PRECHAMBER

FV033T:



FV035T:



FV034T:



| Art. no. | Prechamber |
|----------|-------------------------------------|
| FV033T | large, 20 mm |
| FV035T | small, 14 mm |
| FV034T | large, 20 mm, with catheter, 600 mm |

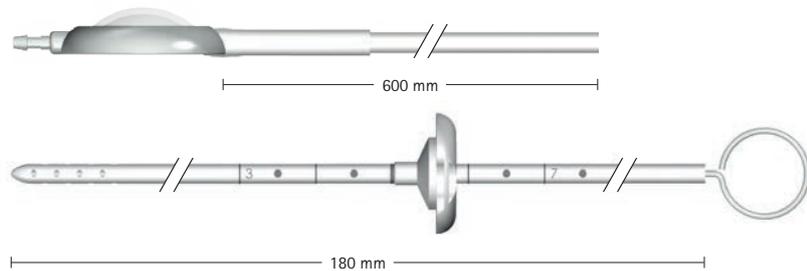
Connector: $d_o = 1.9$ mm

Catheter: $d_i = 1.2$ mm, $d_o = 2.5$ mm

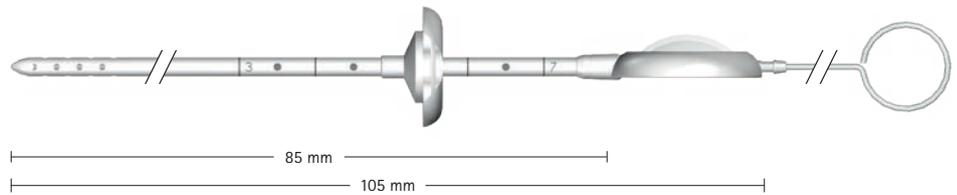
- Made of titanium
- Radiopaque
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Solid titanium base preventing penetration with a syringe needle

PRECHAMBER SET

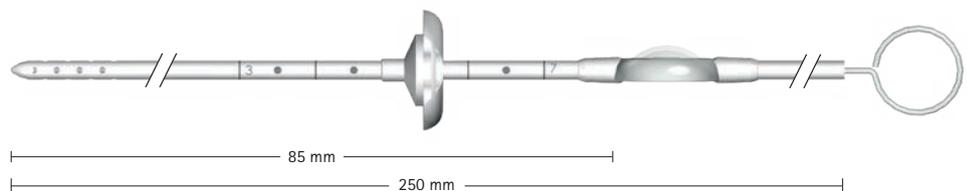
FV036T:



FV037T:



FV079T:



| Art. no. | Set |
|----------|--|
| FV036T | <ul style="list-style-type: none"> ▪ Ventricular catheter, 180 mm, with stylet, graduated ▪ Prechamber, large, 20 mm, with catheter, 600 mm ▪ Deflector, large, 16 mm |
| FV037T | <ul style="list-style-type: none"> ▪ Ventricular catheter, 85 mm, graduated, and integrated prechamber, large, 20 mm and stylet ▪ Deflector, large, 16 mm |
| FV079T | <ul style="list-style-type: none"> ▪ Ventricular catheter, 85 mm, graduated, and integrated prechamber, small, 14 mm with distal catheter, 153 mm and stylet ▪ Deflector, large, 16 mm |

Connector: $d_o = 1.9$ mm
 Catheter: $d_i = 1.2$ mm, $d_o = 2.5$ mm

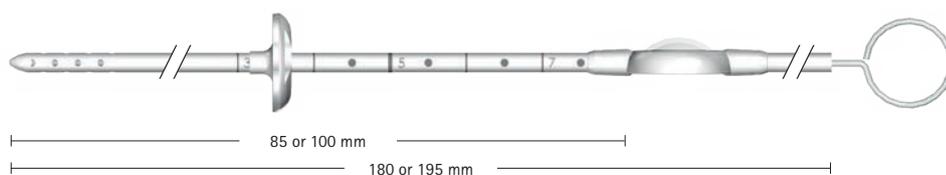
ACCESSORIES

PRECHAMBER

- Made of titanium
- Radiopaque
- Allows CSF extraction and drug injection by inserting a syringe through the silicone dome
- Solid titanium base preventing penetration with a syringe needle

PRECHAMBER SET Rezervuaro rinkinys

FV038T/FV080T:



| Art. no. | Set |
|----------|--|
| FV038T | <ul style="list-style-type: none">▪ Ventricular catheter, 85 mm, graduated, and integrated prechamber, small, 14 mm with catheter, 80 mm and stylet▪ Deflector, small, 13 mm |
| FV080T | <ul style="list-style-type: none">▪ Ventricular catheter, 100 mm, graduated, and integrated prechamber, small, 14 mm with catheter, 80 mm and stylet▪ Deflector, small, 13 mm |

Connector: $d_o = 1.9$ mm

Catheter: $d_i = 1.2$ mm, $d_o = 2.5$ mm

TITANIUM CONNECTORS

- Preferably for use with catheters of:

- internal diameter

$$d_i = 1.2 \text{ mm}$$

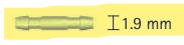
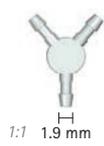
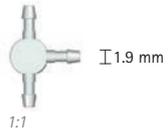
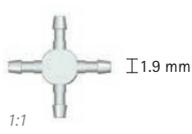
- external diameter

$$d_o = 2.5 \text{ mm}$$

- Connector diameter:

$$d_o = 1.9 \text{ mm}$$

TITANIUM CONNECTORS

| | | Straight | Art. no. | Sales unit |
|---|--|----------|-------------------|------------|
|  |  $\varnothing 1.9 \text{ mm}$ | | FV012T 22. | 1 pc. |
| | | | FV013T | 5 pcs. |
| | | | FV014T | 10 pcs. |
| | | 1:1 | | |
| | | L-shape | Art. no. | Sales unit |
|  |  $\varnothing 1.9 \text{ mm}$ | | FV051T | 1 pc. |
| | | | | |
| | | 1:1 | | |
| | | Y-shape | Art. no. | Sales unit |
|  |  $\varnothing 1.9 \text{ mm}$ | | FV015T 23. | 1 pc. |
| | | | FV016T | 5 pcs. |
| | | | FV017T | 10 pcs. |
| | | 1:1 | | |
| | | T-shape | Art. no. | Sales unit |
|  |  $\varnothing 1.9 \text{ mm}$ | | FV018T | 1 pc. |
| | | | FV019T | 5 pcs. |
| | | | FV020T | 10 pcs. |
| | | 1:1 | | |
| | | X-shape | Art. no. | Sales unit |
|  |  $\varnothing 1.9 \text{ mm}$ | | FV021T | 1 pc. |
| | | | | |
| | | 1:1 | | |

ACCESSORIES

MAGRAM CONNECTORS

- Preferably for use with catheters of:

- internal diameter

$$d_i = 1.2 \text{ mm}$$

- external diameter

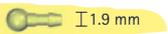
$$d_o = 2.5 \text{ mm}$$

- Connector diameter:

$$d_o = 1.9 \text{ mm}$$

- Design acc. to Dr. Magram

MAGRAM CONNECTORS

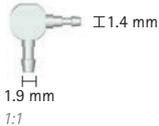
| | Y-shape | Art. no. | Sales unit |
|---|--|----------|------------|
|  |  1:1 | FV056T | 1 pc. |
| | F-shape | Art. no. | Sales unit |
|  |  1:1 | FV058T | 1 pc. |
| | L-shape | Art. no. | Sales unit |
|  |  1:1 | FV059T | 1 pc. |
| | Sealing plugs | Art. no. | Sales unit |
|  |  1:1 | FV024T | 1 pc. |
| | | FV025T | 5 pcs. |
| | | FV026T | 10 pcs. |

TITANIUM CONNECTORS

- Step-down connectors are designed for connecting standard catheters to lumbar catheters
- Step-down connector diameters: $d_o = 1.9 \text{ mm to } 1.4 \text{ mm}$

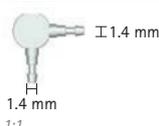
TITANIUM CONNECTORS, STEP-DOWN

| | Straight | Art. no. | Sales unit |
|---|--|-------------------|------------|
|  |  | FV050T 24. | 1 pc. |
| | 1:1 | | |

| | L-shape | Art. no. | Sales unit |
|--|--|----------|------------|
|  |  | FV052T | 1 pc. |
| | 1:1 | | |

- L-P connectors are designed for connecting two lumbar catheters
- Connector diameters for L-P drainage: $d_o = 1.4 \text{ mm}$

TITANIUM CONNECTOR, L-P DRAINAGE

| | L-shape | Art. no. | Sales unit |
|---|---|----------|------------|
|  |  | FV053T | 1 pc. |
| | 1:1 | | |

ACCESSORIES

TUNNELING INSTRUMENTS

- For percutaneous tunneling and inserting of catheters

REUSABLE TUNNELING INSTRUMENT, CURVED



| Art. no. | Length |
|----------|-------------------------------|
| FV001R | working length 130 mm, 5 1/8" |

- For percutaneous tunneling and inserting of catheters

SINGLE USE TUNNELING INSTRUMENT, FLEXIBLE
 SALES UNIT: PAK= PACKAGE OF 10 PIECES,
 EACH IN INDIVIDUAL STERILE PACKAGING



| Art. no. | Length |
|----------|-----------------|
| FV002R | 300 mm, 11 3/4" |
| FV003R | 450 mm, 17 3/4" |
| FV004R | 600 mm, 23 5/8" |

OUR SHUNT SYSTEMS – YOUR CHOICE

| | | | | | | |
|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |
|---|---|---|--|---|---|---|

| Description | |
|--|--|
| Adjustable gravita-tional pressure differential pressure valve | Adjustable differen-tial pressure valve with gravitational unit |
| Gravitational valve to prevent overdrainage complications | Gravitational valve with large flow volumes for CSF |
| Gravitational valve for treating Hydrocephalus | Differential pressure valve, specifically for premature babies and newborns or bedrid-den or non-mobile patients |

| Indication | |
|------------------------|---|
| LP | ✓ |
| NPH | ✓ |
| Pediatric HC | ✓ |
| Adult HC | ✓ |
| Patient | |
| Lying | ✓ |
| Active | ✓ |
| Feature | |
| 3-Tesla MR Conditional | ✓ |
| Gravitational Unit | ✓ |
| Adjustable | ✓ |

* in combination with SHUNTASSISTANT® 2.0 or proSA®



NEUROSURGERY

WE UNDERSTAND THE GRAVITY OF THE SITUATION.

GRAVITATIONAL VALVES BY MIETHKE

AESCLAP® – a B. Braun brand

Aesculap AG | Am Aesculap-Platz | 78532 Tuttlingen | Germany | www.aesculap.com

NOTES

A series of horizontal dotted lines for writing notes.



NEUROSURGERY

SENSOR RESERVOIR

SENSOR PRECHAMBER

TELEMETRIC SHUNT CONTROL – READING INNER VALUES

AESCULAP® – a B. Braun brand

Aesculap AG | Am Aesculap-Platz | 78532 Tuttlingen | Germany | www.aesculap.com

Manufacturer acc. MDD 93/42/EEC

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AESCULAP[®] – a B. Braun brand

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