

# The Ahmed<sup>®</sup> Glaucoma Valve

Model FP7

Manufactured by



NEW WORLD  
MEDICAL

USA



0459



**Caution:** Federal (USA) law restricts this device to sale or on the order of a physician.

English (en)

# The Ahmed® Glaucoma Valve

## Model FP7

### Product Information

#### DESCRIPTION

The Ahmed® Glaucoma Valve Model FP7 (AGV-FP7) is a valved aqueous drainage implant designed to regulate intraocular pressure in eyes suffering from refractory glaucoma. The Ahmed® device consists of a valve mechanism and a plate. The valve mechanism is comprised of a silicone drainage tube and polypropylene body which houses a silicone elastomer valve membrane. The polypropylene body protects the valve membrane from blockage by fibrous tissue. The plate conforms to the shape of the globe at its equator and provides a surface where fluid can be dispersed. The plate material of the Model FP7 is silicone. The device is for single use only.

#### INDICATIONS

The Ahmed® Glaucoma Valve Model FP7 is indicated for the management of refractory glaucomas, where previous surgical treatment has failed, or by experience is known not to provide satisfactory results. Such refractory glaucomas can include neovascular glaucoma, primary open angle glaucoma unresponsive to medication, congenital or infantile glaucoma, and refractory glaucomas resulting from aphakia or uveitis.

#### CONTRAINDICATIONS

- |                             |                             |
|-----------------------------|-----------------------------|
| a. Bacterial conjunctivitis | e. Bacteremia or septicemia |
| b. Bacterial corneal ulcers | f. Active scleritis         |
| c. Endophthalmitis          | g. No light perception      |
| d. Orbital Cellulitis       |                             |

#### COMPLICATIONS AND ADVERSE REACTIONS

Corneal Edema	Choroidal detachment
Corneal Touch	Iritis
Iris/Tube Touch	Hyphema
Synechia	Tube Obstruction
Exposed Sclera Graft	Tube Retraction

as well as known complications of aqueous shunts and general intraocular surgery including hypotony, shallow chamber, hyphema, choroidal effusion, suprachoroidal hemorrhage, choroidal detachment, retinal detachment, iritis, synechia, cataract, conjunctival buttonhole, phthisis bulbi, bullous keratopathy, uveitis and endophthalmitis.

#### WARNINGS, PRECAUTIONS

Do not use the device if sterile package integrity has been compromised. Do not re-sterilize the implant. Before using the Ahmed® Glaucoma Valve, the implanting surgeon should be skilled in glaucoma filtering procedures and familiar with the use of drainage devices, as well as post-operative care required.

Priming the valve is essential for proper functioning of the valve. Do not implant the valve without priming it.

Ensure that the valve is primed before operating on the patient. Inherently, the force required to prime the valve may vary between units. Some valves may require more force applied over a longer period of time than other valves in order to perform the priming operation. If you are unable to prime the valve, do not use the device. The manufacturer will exchange the device

In rare cases, you may be unable to prime the valve due to crimped or pinched tubing. In such a situation, do not use the device. The manufacturer will exchange the device

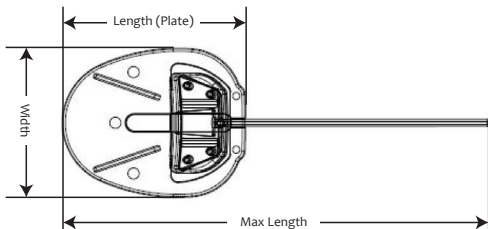
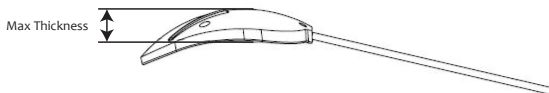
Using a needle for priming can puncture the tube resulting in an undesirable leak or inability to prime. Only use a blunt cannula to prime the valve

The Ahmed® Glaucoma Valve is intended for single use, it shall not be reused. It shall be discarded to avoid deterioration, cross contamination and/or infection.

Tampering with the valve can cause malfunctioning of the valve.

**AGV-FP7**

Trade Name: Ahmed® Glaucoma Valve Model FP7

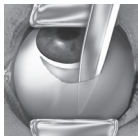
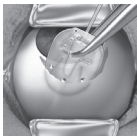
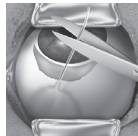
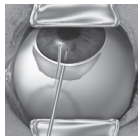
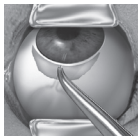
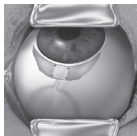
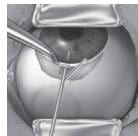
**Top View****Side View****End Plate:** Medical Grade Silicone**Drainage Tube:** Medical Grade Silicone**Valve Membrane:** Medical Grade Silicone**Valve Casing:** Medical Grade Polypropylene (PP)**Adhesive:** Medical Grade Silicone Glue**Maximum thickness:** 2.1 mm**Max Length:** 41.4 mm**Plate Length:** 16.0 mm**Device Overall Width:** 13.0 mm**Drainage Area/Explant Surface Area:** 184 mm<sup>2</sup>**HOW SUPPLIED**

The implant is supplied sterile in a sealed pouch.

Product Information, Patient Chart Labels, Implant Notification Card, and a Patient ID Card are also enclosed with the sterile package. The implant has been terminally sterilized by Gamma Radiation. Sterility is assured provided that the peel pouch has not been opened or damaged, and the sterility expiration date

has not lapsed. The peel pouch is intended to be opened using sterile technique, allowing the implant to be dropped into the sterile field.

**NOTE:** The manufacturer disclaims all warranties expressed or implied, including but not limited to suitability for a particular purpose.

**Figure 1****Step 1****Step 2****Step 3****Step 4****Step 5****Step 6****Step 7****Alternative to Step 7**

Refer to figure 1 for the illustration of each step. The steps described here are intended as a guideline only, and do not represent recommended treatment for any particular patient. The use of any specific surgical technique or maneuver is at the sole discretion of the surgeon. Surgeons should be familiar with the use of glaucoma drainage devices and post-operative care considerations before implanting any drainage device. Reference papers and surgical video tapes are available upon request.

1. The implant should be examined and primed prior to implantation. Priming is accomplished by injecting 1cc balanced salt solution or sterile water through the drainage tube and valve, using a blunt 26-gauge cannula.
2. A fornix-based incision is made through the conjunctiva and Tenon's capsule. A pocket is formed at the superior quadrant between the medial or lateral rectus muscles by blunt dissection of Tenon's capsule from the episclera.
3. The valve body is inserted into the pocket between the rectus muscles and sutured to the episclera. The leading edge of the plate should be at least 8-10mm from the limbus.
4. The drainage tube is trimmed to permit a 2-3 mm insertion of the tube into the anterior chamber (AC). The tube should be bevel cut to an anterior angle of 30° to facilitate insertion.

5. A paracentesis is performed, and the AC is entered at 1-2 mm away from the limbus with a sharp 23-gauge needle to create a needle track, parallel to the iris. Caution: Care must be taken to ensure that the drainage tube does not contact the iris or corneal endothelium after insertion.

Note: Some surgeons prefer to enter the AC from at least 3mm away from the limbus.

6. The drainage tube is inserted approximately 2-3 mm into the AC through the needle track created in step 5. The leading edge of the plate should be 8-10 mm from the limbus.
7. The exposed drainage tube is covered with a piece of preserved, donor sclera, pericardium, cornea, or other suitable patch graft material which is sutured into place and the conjunctiva is closed.

Note: As an alternative to Step 7, a 2/3 thickness limbal-based scleral flap may be made. The tube is inserted into the AC through a 23-gauge needle puncture made under the flap. The flap is sutured closed.

## CLINICAL STUDY RESULTS

7.

Clinical data for the AGV-FP7 can be found in the citations referenced below. This includes safety and effectiveness data and information on adverse effects and complications associated with the AGV-FP7.

1. The Ahmed Baerveldt Comparison Study. This study compared the long-term outcomes and complication of the Ahmed Glaucoma Valve model FP7 (AGV-FP7) and the Baerveldt glaucoma implant. This was a multicenter, prospective, randomized, controlled clinical trial with several relevant publications which have been cited here.

Barton K, Gedde SJ, Budenz DL, Feuer WJ, Schiffman J. The Ahmed Baerveldt Comparison Study methodology, baseline patient characteristics, and intraoperative complications. *Ophthalmology*. 2011 Mar;118(3):435-42. PubMed PMID: 20932581; NIHMSID: NIHMS233027; PubMed Central PMCID: PMC3020244.

Budenz DL, Barton K, Feuer WJ, Schiffman J, Costa VP, et al. Treatment outcomes in the Ahmed Baerveldt Comparison Study after 1 year of follow-up. *Ophthalmology*. 2011 Mar;118(3):443-52. PubMed PMID: 20932583; NIHMSID: NIHMS233028; PubMed Central PMCID: PMC3020266.

Budenz DL, Barton K, Gedde SJ, Feuer WJ, Schiffman J, et al. Five-year treatment outcomes in the Ahmed Baerveldt comparison study. *Ophthalmology*. 2015 Feb;122(2):308-16. PubMed PMID: 25439606; NIHMSID: NIHMS625185; PubMed Central PMCID: PMC4306613.

Budenz DL, Feuer WJ, Barton K, Schiffman J, Costa VP, et al. Postoperative Complications in the Ahmed Baerveldt Comparison Study During Five Years of Follow-up. *Am J Ophthalmol*. 2016 Mar;163:75-82. e3. PubMed PMID: 26596400; NIHMSID: NIHMS746915; PubMed Central PMCID: PMC4901387.












2. Comparison of Polypropylene and Silicone Ahmed Glaucoma Valves. This study was conducted to evaluate and compare clinical outcomes after implantation of the silicone plate Ahmed Glaucoma Valve Model FP7 (AGV-FP7) and the polypropylene plate Ahmed Glaucoma Valve Model S2 (AGV-S2). This was a prospective, multicenter, comparative study.

Ishida K, Netland PA, Costa VP, Shiroma L, Khan B, et al. Comparison of polypropylene and silicone Ahmed Glaucoma Valves. *Ophthalmology*. 2006 Aug;113(8):1320-6. PubMed PMID: 16877071.

3. Comparison of silicone and polypropylene Ahmed glaucoma valves: two-year follow-up. The purpose of this study was to compare the safety and efficacy of the silicone Ahmed glaucoma drainage device (AGV-FP7) and the polypropylene Ahmed glaucoma drainage device (AGV-S2). This study was a single surgeon, retrospective, consecutive case series.

Mackenzie PJ, Schertzer RM, Isbister CM. Comparison of silicone and polypropylene Ahmed glaucoma valves: two-year follow-up. *Can J Ophthalmol*. 2007 Apr;42(2):227-32. PubMed PMID: 17392844.

## SYMBOLS USED ON PACKAGING

Symbol	English	Symbol	English	Symbol	English
	Manufacturer		Consult Instructions for Use		Do not re-sterilize
	Authorised representative in the European Community		Use-by date		Serial Number
	Do not re-use		Sterilized using irradiation		Do not use if package is damaged
	Date of Manufacture YYYY-MM		Batch Code		



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Part #50-0088 Rev New 10/2016

## Ahmed glaukomos vožtuvas

## FP7 modelis

Informacija apie produktą

## APRAŠYMAS

Ahmed glaukomos vožtuvas, FP7 modelis, (AGV-FP7) – tai skysčio nutekėjimo vožtuvo implantas, reguliuojantis glaukomos pažeistų akių akispūdį, nepasiduodantį medikamentiniam gydymui. Implantą sudaro vožtuvo mechanizmas ir plokštelė. Vožtuvo mechanizmą sudaro silikoninis drenazo vamzdelis ir polipropileno korpusas, kuriame yra silikoninė elastomerinė vožtuvo membrana. Polipropileno korpusas saugo vožtuvo membraną, kad neušikištų pluoštiniu audiniu. Plokštelė yra išgaubta ir sudaro paviršių, kuriame skystis gali būti išsklaidytas. FP7 modelio plokštelė yra silikoninė. Implantas yra vienkartinis.

## INDIKACIJOS

Ahmed glaukomos vožtuvas, FP7 modelis, skirtas gydyti refrakterines glaukomas, kai ankstesnis chirurginis gydymas nepadėjo arba iš patirties aišku, kad tokio gydymo rezultatai bus nepatenkinami. Tokios refrakterinės glaukomos apima neovaskulinę glaukomą, pirminę atviro kampo atsparią medikamentiniam gydymui, įgimtą arba juvenilinę glaukomą, taip pat refrakterinę glaukomą, susidariusią dėl afakijos ar uveito.

## KONTRAINDIKACIJOS

- |                              |                                   |
|------------------------------|-----------------------------------|
| a. Bakterinis konjunktyvitas | e. Bakteremija ar septicemija     |
| b. Bakterinė ragenos opa     | f. Aktyvus skleritas              |
| c. Endoftalmitas             | g. Aklumas (nėra šviesos jautimo) |
| d. Orbitos celiulitas        |                                   |

## KOMPLIKACIJOS IR NEPAGEIDAUJAMOS

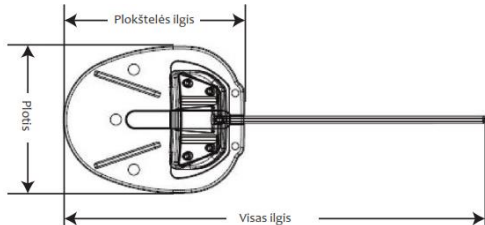
## REAKCIJOS

Ragenos edema	Gyslainės atšoka
Ragenos jautrumas	Iritas
Rainelės/vamzdelio jautrumas	Hifema
Sąaugos	Vamzdelio užsikimšimas
Eksponuojamas	skleros Vamzdelio padėties pasikeitimas
transplantantas	

## AGV-FP7

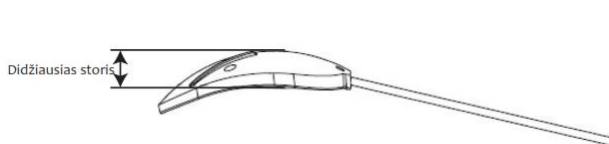
Prekinis pavadinimas: Ahmed® Glaucoma Valve Model FP7 (liet. Ahmed glaukomos vožtuvas, FP7 modelis)

## Vaizdas iš viršaus



**Galinė plokštelė:** medicininis silikonas  
**Drenavimo vamzdelis:** medicininis silikonas  
**Vožtuvo membrana:** medicininis silikonas  
**Vožtuvo korpusas:** medicininis polipropilenas (PP)  
**Klijai:** medicininiai silikono klijai

## Vaizdas iš šono



**Didžiausias storis:** 2,1 mm  
**Visas ilgis:** 41,4 mm  
**Plokštelės ilgis:** 16,0 mm  
**Bendras vožtuvo plotis:** 13,0 mm  
**Drenavimo plotas arba perkeliama paviršiaus plotas:** 184 mm<sup>2</sup>

## KAIP PATEIKIAMAS

**Implantas pateikiamas steriliai patalpintas hermetiniame pakete.** Informacija apie produktą, pacientų kortelių etiketės, implanto kortelė ir paciento ID kortelė taip pat supakuoti sterilioje pakuotėje. Implantas sterilizuotas gama spinduliais. Sterilumas garantuojamas su sąlyga, kad paketas neatidarytas ir nepažeistas, o sterilizavimo galiojimas nėra pasibaigęs.

Paketas turi būti atidarytas, naudojant sterilią techniką, leidžiančią implantą perkelti į sterilią aplinką.

**PASTABA:** gamintojas atsisako visų garantijų išreikštų arba numanomų, įtraukiant, bet neapsiribojant tinkamumu konkrečiam tikslui.

## CHIRURGINĖ PROCEDŪRA

1 pav.

1 žingsnis



2 žingsnis



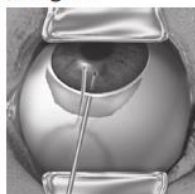
3 žingsnis



4 žingsnis



5 žingsnis



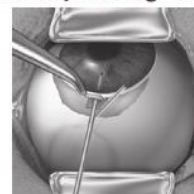
6 žingsnis



7 žingsnis



Alternatyva 7 žingsniui



1 paveikslėlyje pateiktas kiekvienas žingsnis. Toliau pateiktas žingsnių aprašymas, kuris yra tik gairės, o ne rekomenduojamas konkretaus paciento gydymas. Bet kurios specialios chirurginės technikos ar manevro naudojimas parenkamas chirurgo nuožiūra. Prieš implantuojant bet kurį drenažo prietaisą, chirurgas turi būti susipažinęs su drenažo prietaiso naudojimu ir pooperacine priežiūra. O paprašius turi būti galima gauti informacinius dokumentus ir chirurgines vaizdo juostas.

1. Prieš implantuojant implantas turi būti patikrintas ir užtaisytas. Užtaisoma įpurškiant 1 kub. cm subalansuoto druskos tirpalo arba sterilus vandens per drenažo vamzdelį ir vožtuvą, naudojant buką 26 dydžio kaniulę.
2. Skliautinis pjūvis atliekamas per junginį ir Tenono kapsulę. Kišenė suformuojama viršutiniame kvadrante tarp vidinio arba išorinio tiesiojo raumens bukau atskiriant Tenono kapsulę nuo episkleros.
3. Vožtuvo korpusas įvedamas į kišenę tarp tiesiųjų raumenų ir prisiuvamas prie episkleros. Priekinis plokštelės kraštas turi būti mažiausiai 8-10 mm nuo limbo.
4. Drenažo vamzdis apipjaustomas, kad būtų galima vamzdį 2-3 mm įvesti į priekinę kamerą (PK). Vamzdelis turi būti nupjautas 30° priekiniu kampū, kad įvedimas būtų lengvesnis.

5. Atliekama paracentezė, ir į PK 1-2 mm nuo limbo įvedama aštri 23 dydžio adata, kad susidarytų adatos siūlė, lygiagrečiai raienei. Dėmesio: pasirūpinkite, kad būtų užtikrinta, jog po įvedimo drenažo vamzdelis neličia raienės ir ragenos endotelio.

Pastaba: kai kurie chirurgai į PK įveda mažiausiai 3 mm nuo limbo.

6. Drenažo vamzdelis įvedamas maždaug 2-3 mm į PK per adatos siūlę, suformuotą 5 žingsnyje. Priekinis plokštelės kraštas turi būti 8-10 mm nuo limbo.

7. Eksponuojamas drenažo vamzdelis uždengiamas apsaugomuoju lapeliu, donoro sklera, perikardu, rageną, arba kitomis tinkamomis transplantacijai medžiagomis, kurios yra prisiuvamos toje vietoje, ir uždengiama jungine.

Pastaba: kaip alternatyva 7 žingsniui, suformuojamas 2/3 storio limbos skleros lapelis. Vamzdelis įvedamas į PK 23 dydžio adata, duriant per lapą. Lapelis prisiuvamas.

## KLINIKINIŲ TYRIMŲ REZULTATAI

AGV-FP7 klinikinių tyrimų rezultatai pateikiami šiose nuorodose. Tai apima saugumo ir efektyvumo duomenis bei informaciją apie nepageidaujamą AGV-FP7 poveikį ir komplikacijas.

1. **The Ahmed Baerveldt Comparison Study.** Šiame tyrime palyginti Ahmed glaukomos vožtuvo FP7 modelio (AGV-FP7) ir Baerveldt glaukomos implantato ilgalaikiai rezultatai ir komplikacijos. Tai daugiacentris, perspektyvinis, atsitiktinių imčių, kontroliuojamas klinikinis tyrimas su keliomis susijusiomis ir čia pateiktomis publikacijomis.

Barton K, Gedde SJ, Budenz DL, Feuer WJ, Schiffman J. The Ahmed Baerveldt Comparison Study methodology, baseline patient characteristics, and intraoperative complications. *Ophthalmology*. 2011 Mar;118(3):435-42. PubMed PMID: 20932581; NIHMSID: NIHMS233027; PubMed Central PMCID: PMC3020244.

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2. **Comparison of Polypropylene and Silicone Ahmed Glaucoma Valves.** Šis tyrimas atliktas, siekiant įvertinti ir palyginti klinikinius rezultatus, implantavus silikoningą Ahmed glaukomos vožtuvo FP7 modelio (AGV-FP7) plokštelę ir polipropileningą Ahmed glaukomos vožtuvo S2 modelio (AGV-S2) plokštelę. Tai perspektyvinis, daugiacentris, palyginamasis tyrimas.

Ishida K, Netland PA, Costa VP, Shiroma L, Khan B, et al. Comparison of polypropylene and silicone Ahmed Glaucoma Valves. *Ophthalmology*. 2006 Aug;113(8):1320-6. PubMed PMID: 16877071.

3. **Comparison of silicone and polypropylene Ahmed glaucoma valves: two-year follow-up.** Šio tyrimo tikslas – palyginti silikoningo Ahmed glaukomos drenažo prietaiso (AGV-FP7) ir polipropileningo Ahmed glaukomos drenažo prietaiso (AGV-S2) saugumą ir efektyvumą. Šis tyrimas – vieno chirurgo retrospektyvi, nuoseklių atvejų serija.

Mackenzie PJ, Schertzer RM, Isbister CM. Comparison of silicone and polypropylene Ahmed glaucoma valves: two-year follow-up. *Can J Ophthalmol*. 2007 Apr;42(2):227-32. PubMed PMID: 17392844.

## PAKUOTĖS SIMBOLIAI

Simbolis	Lietuviškai	Simbolis	Lietuviškai	Simbolis	Lietuviškai
	Gamintojas		Perskaityti naudojimo instrukciją		Negalima pakartotinai sterilizuoti
	Įgaliotas atstovas Europos Bendrijoje		Naudoti iki nurodytos galiojimo datos		Serijinis numeris
	Negalima naudoti pakartotinai		Sterilizutas, naudojant spinduliavimą		Nenaudoti, jeigu pažeista pakuotė
	Pagaminimo data. Metai-mėnuo		Partijos kodas		



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