

# Opening a Whole New World: FAAC Swing Gate Systems



## Models 402 & 422

The Models 402 and 422 hydraulic swing gate operators are designed for private residences. They offer many of the benefits of a large gate operator in a compact form.



Swing Gate Operators  
Slide Gate Operators  
Barrier Gate Operators  
Accessories

**FAAC** USA  
An ISO 9001 Certified Company

FAAC is the world's largest specialized manufacturer of gate operating equipment.

UL 325  
COMPLIANT  
CSI # 02820 -  
Gate Operators

## Model 402 and 422

# Hydraulic Swing Gate Operators

**UL 325  
COMPLIANT**  
CSI # 02820 -  
Gate Operators

### Model 402 and 422 Kits include:

- One or two hydraulic gate operators with mounting hardware
- One 455 D control panel
- One 14 x 16 in. weather resistant UL Listed fiberglass enclosure
- Two photobeam sets for opening and closing reversing devices
- One or two manual release keys
- One plug-in radio receiver
- Two radio transmitters
- 115 VAC receptacle for accessories (5 amp max.)
- ON/OFF switch controlling power to control panel, accessories and plug outlet
- Large pre-wired terminals for easy wiring to control panel
- Test button
- Two or four warning signs

NOTE: FAAC packages their operators to be fully UL-325 compliant, right out of the box, which means there's no need to purchase any additional peripherals.

The Models 402 and 422 hydraulic swing gate operator are designed for private residences. They offer many of the benefits of a large gate operator in a compact form.

A high-speed version of the 422 is available for pedestrian gates that require quick closure.

Hydraulic swing gate operators are inherently safer than other types of operators because they have fewer "pinch points." In addition, FAAC 402 and 422 operators are equipped with a hydraulic bypass valve for extra entrapment protection and a manual release that allows you to operate your gate if there is a power failure. A battery back-up unit is also available.

The 402 hydraulic system can hydraulically lock the gate in your choice of the opened or closed positions.

The 422 system can hydraulically lock the gate in your choice of the opened and/or closed positions. Both models have versions that allow your gate system be set up to provide

special options including "gate-safe" or "gate-secure" configurations:

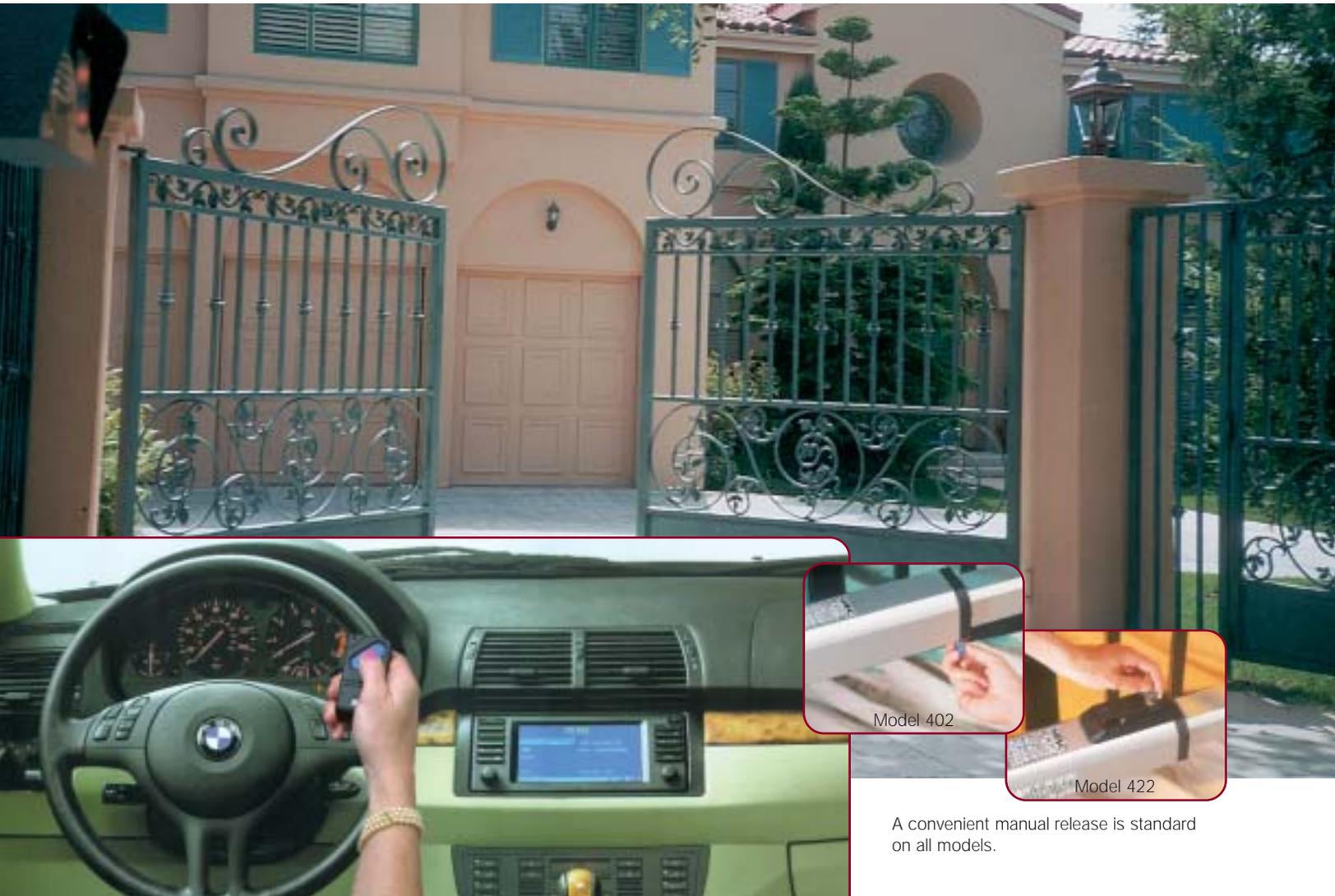
- Gate-safe: during power outages, a magnetic lock releases a closed gate to permit emergency access.
- Gate-secure: during power outages, an electric lock keeps a closed gate locked.

The versatile FAAC control panel allows for six operating modes including garage-door-like operation and a new HOLD OPEN function.

The 402 and 422 can be mounted inside the gate and still allow the gate to open to the inside or to the outside. All FAAC operators can be finished to blend with the gate.

All swing gates require gate stops that limit the travel of each gate leaf and thus protect the operator. Optional concealed gate stops are available.

NOTE: To guarantee the safety and efficiency of its equipment, FAAC strongly recommends that qualified personnel test the safety system on an annual basis, as well as maintain the overall hydraulic or mechanical system.



Model 402

Model 422

A convenient manual release is standard on all models.

## Use FAAC to build a complete gate system



All Model 402 and 422 kits include a Model 455 D Control panel.

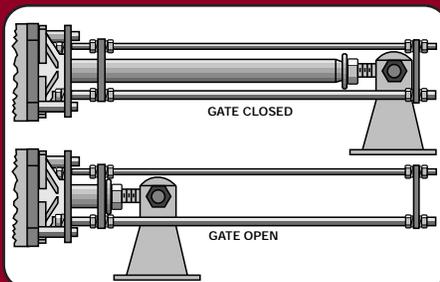
features include:

- One 455 D operates single leaf or bi-parting gates
- Easy interconnection of loop detectors, photobeams, etc. to reverse a gate if an obstacle is sensed
- Easy interconnection of actuating devices like remote control radios, key pads and telephone entry systems
- Selectable logics:
  - A (automatic): The gate opens on command and automatically closes after a pause phase. A second command on opening is ignored; a second command during the pause phase interrupts the pause time; a second command during closing reopens the gate. A maintained open command will hold the gate open.
  - S (security): The security mode is like A logic except that a second signal during opening immediately closes the gate.
  - E (semi-automatic): Garage-door-like operation. This mode requires a signal to open and a signal to close. A second signal during opening or closing causes the gate to stop. A third signal then closes the gate.
  - EP (semi-automatic): Similar to E logic, but second signal stops gate, third signal reverses gate.
  - B (manned): Designed for guard station use and requires a 3-button switch (pulsed) to open, close and stop the gate.
  - C (manned and constant): Similar to B logic, but 3-button switch requires constant pressure on each button.

## Positive gate stops

Positive gate stops, which limit the travel of each gate leaf, are required in the opened and closed positions for all gate systems using FAAC operators.

FAAC offers three innovative gate stops. The Stop-O-Matic Model 84 is an adjustable gate stop that attaches directly to the gate operator. For aesthetic purposes, the Model 80 is totally concealed under the operator cover.



Features include:

- Stainless steel construction
- Mounts with existing FAAC hardware and does not require additional attachment points
- Accommodates inward or outward swing with no additional fabrication
- Maximum degrees of swing: limited by operator
- Maximum leaf length & weight: limited by operator

UL 325 Class Descriptions & FAAC Operators			
Class	FAAC Models	Duty Cycle	Typical Use
Class 1 Residential vehicular gate operator	400, 412, 402 422, 750, 760 620, 640, 885	Limited duty	•Home use •Small apartment building, up to 4 units per building, limited public access
Class 2 Commercial/General access vehicular gate operator	400, 620, 640 885	Continuous duty	•Apartment buildings •Open public access
Class 3 Industrial/Limited access vehicular gate operator	400, 620, 640 885	Continuous Duty	•No public access
Class 4 Restricted Access vehicular gate operator	620, 640, 885	Continuous Duty	•Prison related security

## Duty Cycle

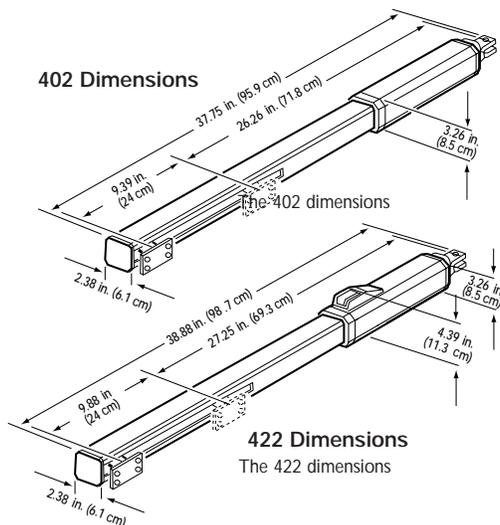
The duty cycle achieved by a swing gate operator in terms of "operations per hour" is, in large part, a function of the installation. For example, an operator swinging a leaf through 125° will be able to complete fewer operations per hour than the same operator swinging only 90°.

The duty cycles listed below reflect performance at an ambient temperature of 72° F (22° C) and at normal voltages of 115 or 230 VAC. Changes in environmental conditions, voltage and gate condition will affect achievable duty cycle.

FAAC Operator Model	Cycles per hour
400	80
402	30
412	50
422	30
750	30
760	30



Model 455 D control panel shown in optional pre-wired hinged, lockable enclosure



## Specifications

Parameter	Model 402 Standard	Model 422 Standard
Application	Single family residence, single leaf or bi-parting gate (vehicles only, not for pedestrian use) (not recommended for solid gates)	
Cycles per hour	30	30
Maximum gate swing	90 degrees	90 degrees
90 degree opening time	12 seconds	12 seconds
Maximum weight per gate leaf	900 pounds (410 kg)	900 pounds (410 kg)
Maximum length per gate leaf	10 feet (3 m)	10 feet (3 m)
Approx. operating temperature range	-33°F to 165°F (-36°C to 74°C) (For extreme temperature conditions, arctic grade fluid is available upon request)	
Hydraulic locking	Available in opened or closed positions	Available in opened and/or closed positions
Voltage	115 VAC (2.5 A) or 230 VAC (1.5 A)	

**Note:** Operator specifications are approximate. Environmental factors can change the performance of the operator. Your installer will advise you which model of operator will work best for your site and application.

## Speed and leaf length

Some thought should be given to the speed at which the gate will travel. The longer the gate leaf, the faster the traveling edge must move to clear an area in a given amount of time.

A speed of 40 feet/minute (12.2 meters/minute) is a "bench mark" velocity. It permits efficient operation while limiting the energy in the moving gate leaf. The lower the energy, the less chance of damage to property or injury to people in the event of accidental contact with the moving gate.

Examples illustrating the relationship between operator speed, gate leaf length, and the velocity of the leaf's traveling edge

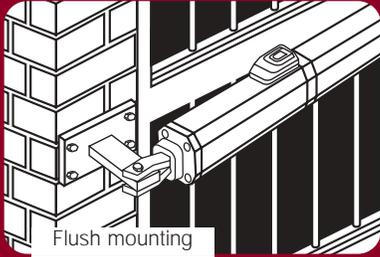
Speed options available (time needed to swing a gate 90°)	EXAMPLE: Velocity of the traveling edge of an 8 ft (2.4 m) leaf [in feet/m and (meters/m)]	Longest leaf which can be used if the velocity of the traveling edge is not to exceed 40 fpm (12.2 mpm)
6 sec.	126 fpm (38 mpm)	2.5 ft (0.8 m)
12 sec.	63 fpm (19 mpm)	5 ft (1.5 m)
15 sec.	50 fpm (15 mpm)	6 ft (1.9 m)
17 sec.	44 fpm (14 mpm)	7.5 ft (2.3 m)
23 sec.	33 fpm (10 mpm)	10 ft (3 m)

# Model 402 and 422 Mounting Geometry

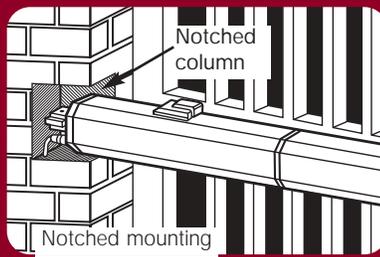
Sometimes the mounting measurements will result in a flush mounting. Other applications require a column to be notched in order to accommodate the correct mounting geometry.

Note: If, in your installation, notching a column is not practical, other solutions are available:

- Install operators using an outward swing.
- Upgrade to an operator with more mounting flexibility.
- Use a Pantograph.
- Use an in-ground operator.



Flush mounting



Notched mounting

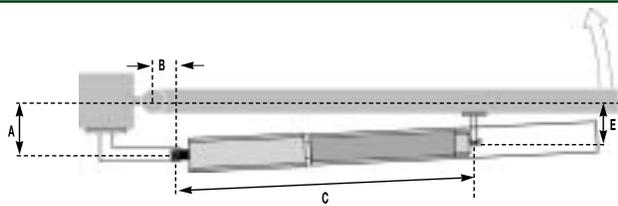
Decisions regarding mounting geometry apply to gate mounted operators: Models 400, 402, 422 and 412 .

As shown in the diagrams below, the operators must be mounted at an angle to the gate. Correct mounting geometry assures that the desired degrees of swing are achieved, that the gate speed is correct, and that the operator and gate will operate properly and have a long life.

Mounting dimensions for OUTWARD-swinging 402 operators, top view

Dimensions

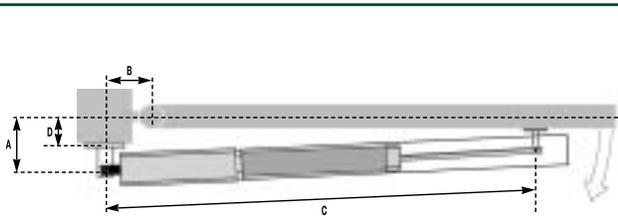
- A 4.5 in. (11.4 cm)
- B 4.5 in. (11.4 cm)
- C 26.5 in. (67.3 cm)
- E MUST be less than A



Mounting dimensions for INWARD-swinging 402 operators, top view

Dimensions

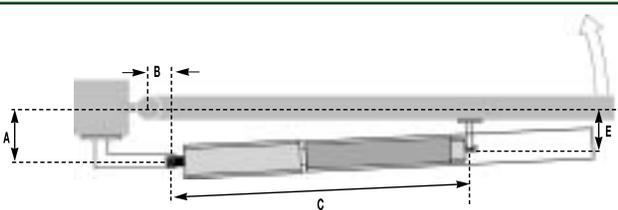
- A 4.5 in. (11.4 cm)
- B 4.5 in. (11.4 cm)
- C 35.5 in. (90.2 cm)
- D If greater than 2 in. (5cm) construct a recess liner.
- E MUST be less than A



Mounting dimensions for OUTWARD-swinging 422 operators, top view

Dimensions

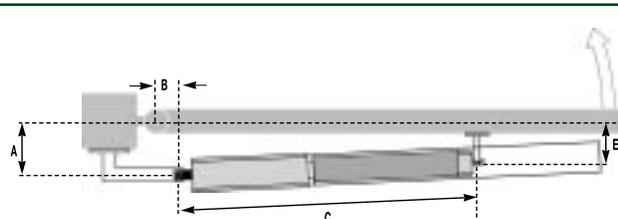
- A 4.75 in. (12 cm)
- B 4.75 in. (12 cm)
- C 27 in. (68.6 cm)
- E MUST be less than A



Mounting dimensions for INWARD-swinging 422 operators, top view

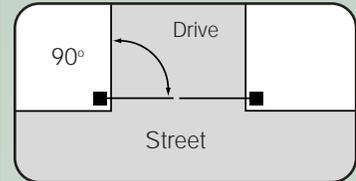
Dimensions

- A 4.75 in. (12 cm)
- B 4.75 in. (12 cm)
- C 36.63 in. (93 cm)
- D max 2.75 in. (7 cm)
- E MUST be less than A

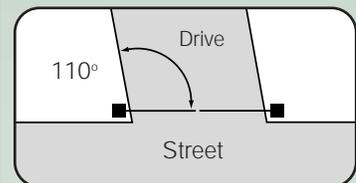


## How many degrees of swing are required?

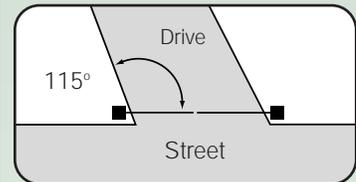
- One FAAC gate operator (Model 750) can swing a gate up to 180°.
- All models of FAAC operators can swing a gate at least 90°.
- Openings which require swings greater than 90° will need certain FAAC operator models.
- The swing of an operator applies equally to inward or outward swinging gates.



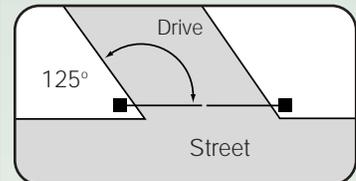
All FAAC operators:  
Models 412, 402, 422, 400,  
750, 760



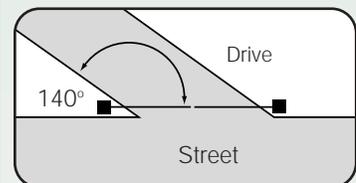
Models 412, 400, 750, 760.



Models 400, 750, 760.



Models 400 EG  
(extended geometry),  
750, 760.



Models 750 (up to 180°),  
760 (up to 148°  
with "soft stop")