

# User Manual:

## The 400 Operator

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# Important Safety Information

The owner and/or operator of this system must read and understand this manual and the safety instructions supplied with other components of the gate system. This information should be retained by the owner and/or operator of the gate.

## WARNING!

### To reduce the risk of injury or death

#### 1. READ AND FOLLOW ALL INSTRUCTIONS.

2. Never let children operate or play with gate controls.  
Keep the remote control away from children.

3. Always keep people and objects away from the gate.  
**NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.**

4. Use the emergency release only when the gate is not moving.

#### 5. KEEP GATES PROPERLY MAINTAINED.

Read the owner's manual. Have a qualified service person make repairs to gate hardware.

6. The entrance is for vehicles only.  
Pedestrians must use separate entrance.

#### 7. SAVE THESE INSTRUCTIONS.

8. Only qualified personnel should install this equipment.  
Failure to meet this requirement could cause severe injury and/or death, for which the manufacturer cannot be held responsible.

9. The installer must provide a main power switch that meets all applicable safety regulations.

10. Clearly indicate on the gate with a minimum of 2 warning signs (visible from either side of the gate) that indicate the following:

- The gate is automatic and could move at any time, posing a serious risk of entrapment.
- Children should not be allowed to operate the gate or play in the gate area.
- The gate should be operated only when it is visible to the operator and the when the area is free of people and obstructions.

11. Devices such as reversing edges and photocells must be installed to provide better protection for personal property and pedestrians.

## Use

1. Use this equipment only in the capacity for which it was designed. Any use other than that stated should be considered improper and therefore dangerous.

2. When using any electrical equipment, observe some fundamental rules:

Do not touch the equipment with damp or humid hands or feet.

Do not operate the equipment with bare feet.

Do not allow small children or incapable persons to use the equipment.

3. If a gate system component malfunctions, turn off the main power before making any attempt to have it repaired.

4. Do not attempt to impede the movement of the gate.  
You may injure yourself as a result.

5. This equipment may reach high temperatures during operation; therefore, do not touch the external housing of the operator.

6. Learn to use the manual release mechanism according to the procedures found in this manual.

7. Before carrying out any cleaning or maintenance operations, turn off the main power.

8. To guarantee the efficiency of this equipment, the manufacturer recommends that qualified personnel periodically check and maintain the equipment.

# Technical Data

## The 400 Operator

Parameter	400 Model			
	Standard	High Speed	Slow Speed	Long
Model	CBC <sup>2</sup> CBA <sup>3</sup> CBAC <sup>4</sup> SB <sup>1</sup>	CBCR <sup>2</sup> CBAR <sup>3</sup> CBACR <sup>4</sup>	SBS <sup>1</sup>	CBC <sup>2</sup> CBAC <sup>4</sup>
Duty type	Apartment, subdivision, industrial, and commercial applications			
Duty cycle	100% Duty Cycle			
Maximum leaf length <sup>5</sup> , ft (m)	18 (5.4)	12 (3.6)	20 (6)	18 (5.4)
Maximum leaf weight, lb (kg)	1300 (600)	900 (400)	2000 (900)	1300 (600)
Maximum leaf swing, deg	115			125
Thrust and traction, lb (kg)	0-1760 (0-800)			
90 deg opening time, sec. <sup>6</sup>	17	12	23	18
Operating temperature range, deg F (deg C)	-33 to 165 (-36 to 75)			
Thermal cut out, deg F (deg C)	212 (100)			
Hydraulic locking	Opened and/or closed		None	Opened and/or closed
Operator dimensions, l x w x h, in. (cm)	40 x 3 5/16 x 3 5/16 (102 x 8.5 x 8.5)			47 1/2 x 3 5/16 x 3 5/16 (121 x 3 x 8.5)
Operator weight, lb (kg)	19 (8.6)			
Power voltage required, VAC <sup>7</sup>	115 VAC ±10%, 60 Hz, or 230 VAC +6 or -10%, 60 Hz			
Type of oil	Lubrication Engineers - MONOLEC 6105			
Oil quantity, qt (l)	2 1/3 (2.2)			2 7/8 (2.7)

**1 The operator requires external locks.**

**2 Locks in the extended position. The hydraulic lock is a service device, not a security device.**

**3 Locks in the retracted position. The hydraulic lock is a service device, not a security device.**

**4 Locks in both the extended and retracted positions. The hydraulic lock is a service device, not a security device.**

**5 External locks are recommended if the gate leaves are 12 ft (3.6 m) or longer.**

**6 The time may vary ±10%.**

**7 Your standard 220 VAC power source meets the specification for 230 VAC, +6 or -10%.**

## Operator Label

The labels on your 400 operator list the following information:

- Model number.
- Serial number
- Voltage rating
- Amp draw
- Pump size
- Motor rpm
- Recommended Oil
- UL specifications

**Note:** Removing or defacing (ie. painting over) the labels will void the warranty. The UL labels must be visible for inspection

# The 400 Operator

## General Characteristics

The FAAC 400 Operator is an automatic gate operator for a swinging gate leaf. It can accommodate a gate leaf of up to 2000 lb (900 kg) and up to 20 ft (6 m) in length.

The self-contained 400 Operator is an electro-hydraulic unit consisting of an electric motor, a pump, a valve assembly, and a hydraulic cylinder, all housed in an anodized aluminum oil reservoir.

The 400 Operator can be used to swing the gate leaf inward or outward. Most versions provide hydraulic locking in at least one position, either opened or closed, depending on how it was ordered.

The hydraulic lock is a service device rather than a security device. Additional, external locks are recommended under the following conditions:

- You are installing the Model 400 SB.
- The length of the gate leaf is 12 ft or more.
- The installation requires tight security.
- The site is subject to vandalism.
- The site is subject to strong or very gusty wind.
- You are installing a solid face gate.

For its protection, the single-phase, bidirectional motor shuts off automatically if its operating temperature reaches 212 deg F (100 deg C). Also for the protection and proper operation of the 400 Operator, each gate leaf on which it is installed must have a fixed positive stop in both the opened and closed positions.

The 400 Operator includes a key-operated Manual Release mechanism. It is a device that disengages (or engages) the hydraulic system of the 400 Operator. When the hydraulic system is disengaged, you can open and close the gate leaf by hand. Such manual operation of the gate is necessary during power failures. (See page 5 for more details.)

Reversing devices (such as inductive loops and photocells) should be installed to provide more complete protection for people and property.

The electronic control panel is a microprocessor-based controller that accepts a wide range of product accessories and reversing devices, thus allowing for flexible gate system design.

**Note:** The 450 provides inputs for opening reversing devices and closing reversing devices. FAAC strongly recommends the use of reversing devices, such as photocells or other non-contact sensors.

Reversing devices include photocells, inductive loops, and so forth. All of the reversing devices should have contacts of the normally closed (N.C.) type. Where you connect a device depends on whether you want the device to operate during opening or during closing.

**Note:** A reversing device is required for a U.L. recognized installation.

**Caution:** Failure of an opening reversing device causes a gate to lock in the closed position and requires the use of the Manual Release key.

*The following logics are available on the 450 MPS:*

- 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 causes the gate to close immediately; a second command during closing reopens the gate.
- S (security): The security mode is like A logic except that a second command during opening immediately closes the gate.
- E (semi-automatic): This mode requires a command to open and a command to close. A second command during opening or closing causes the gate leaves to stop. A third command then closes the gate.
- EP (semi-automatic, step by step): This mode requires a command to open and a command to close. A second command during opening or closing causes the gate leaves to stop. A third command then reverses the previous motion of the gate.
- B (manned, pulsed): This mode is designed for guard station use and requires a three-button switch (pulsed) to open, close, and stop the gate.
- C (manned and constant): This mode requires constant pressure switches. One to open and one to close. No pressure on a switch stops the gate.

# Manual Release Mechanism

The manual release mechanism is located on the top of your 400 operator (see Figure 2). To access the keyhole, slide the key-hole cover in the direction of the arrow (see Figure 1). Insert the key and turn it counterclockwise one full turn to disengage the operator's hydraulic system. You can now move the gate leaf slowly by hand to open or close the gate.

**Note:** Operating the gate leaf by hand is necessary during power failures.

You re-engage the hydraulic system by turning the key clockwise one full turn (or until snug). Remove the key and slide the cover closed.

**Caution:** Overtightening the manual release mechanism can damage or even break the key.

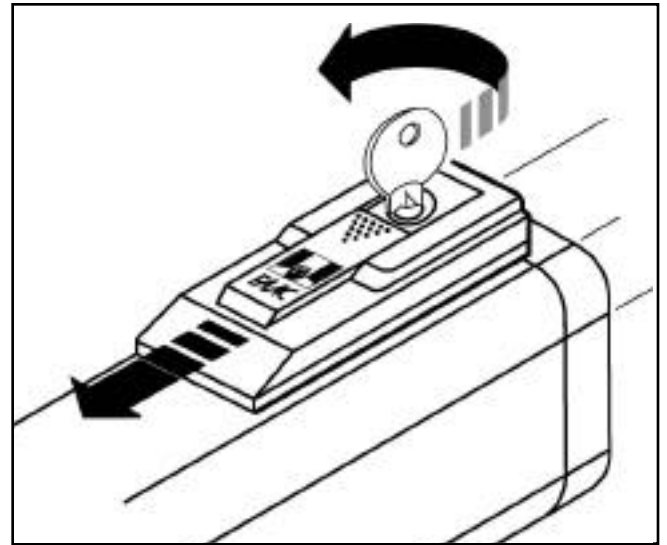


Figure 1. After sliding the cover open on the Model 400, insert and turn the key counterclockwise one full turn to release the hydraulic system.

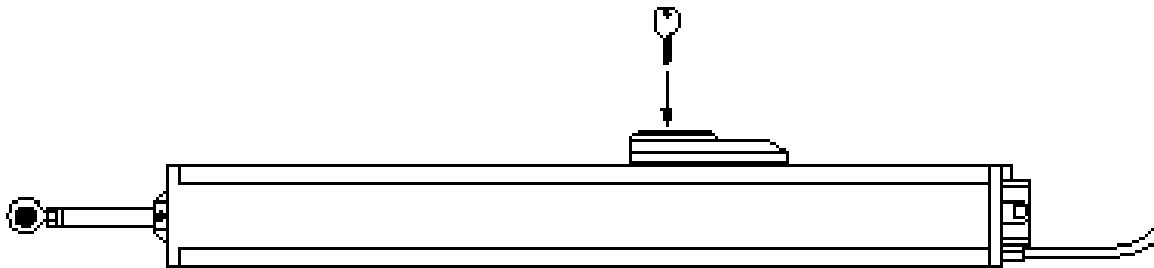


Figure 2. Insert the manual release key in the locking cap located on the top of the 400 operator.

## Maintenance The 400 Operator

The FAAC recommended maintenance schedule varies according to the frequency of use of the operator(s), whether lightly used operator(s) (once or twice an hour) or heavily used operator(s) (many cycles per hour). Operators used in a humid/ salt air climate should follow the heavy duty use schedule.

Check the oil.  
Have a qualified technician check the oil as follows:

- Light duty use: check once per year
- Heavy duty use: check every 6 months

Change the oil.  
Have a qualified technician change the oil as follows:

- Light duty use: change every 4 years
- Heavy duty use: change every 2 years

## The Gate System

A qualified technician should check the entire gate system periodically for proper operation. All reversing devices should be functioning properly, as well as the 400 operators

# Limited Warranty

*To the original purchaser only:* FAAC International, Inc., warrants, for twenty-four (24) months from the date of invoice, the gate operator systems and other related systems and equipment manufactured by FAAC S.p.A. and distributed by FAAC International, Inc., to be free from defects in material and workmanship under normal use and service for which it was intended provided it has been properly installed and operated. FAAC International, Inc.'s obligations under this warranty shall be limited to the repair or exchange of any part of parts manufactured by FAAC S.p.A. and distributed by FAAC International, Inc. Defective products must be returned to FAAC International, Inc., freight prepaid by purchaser, within the warranty period. Items returned will be repaired or replaced, at FAAC International, Inc.'s option, upon an examination of the product by FAAC International, Inc., which discloses, to the satisfaction of FAAC International, Inc., that the item is defective. FAAC International, Inc. will return the warranted item freight prepaid. The products manufactured by FAAC S.p.A. and distributed by FAAC International, Inc., are not warranted to meet the specific requirements, if any, of safety codes of any particular state, municipality, or other jurisdiction, and neither FAAC S.p.A. or FAAC International, Inc., assume any risk or liability whatsoever resulting from the use thereof, whether used singly or in combination with other machines or apparatus.

Any products and parts not manufactured by FAAC S.p.A. and distributed by FAAC International, Inc., will carry only the warranty, if any, of the manufacturer. This warranty shall not apply to any products or parts thereof which have been repaired or altered, without FAAC International, Inc.'s written consent, outside of FAAC International, Inc.'s workshop, or altered in any way so as, in the judgment of FAAC International, Inc., to affect adversely the stability or reliability of the product(s) or has been subject to misuse, negligence, or accident, or has not been operated in accordance with FAAC International, Inc.'s or FAAC S.p.A.'s instructions or has been operated under conditions more severe than, or otherwise exceeding, those set forth in the specifications for such product(s). Neither FAAC S.p.A. or FAAC International, Inc., shall be liable for any loss or damage whatsoever resulting, directly or indirectly, from the use or loss of use of the product(s). Without limiting the foregoing, this exclusion from liability embraces a purchaser's expenses for downtime or for making up downtime, damages for which the purchaser may be liable to other persons, damages to property, and injury to or death of any persons. Neither FAAC S.p.A. or FAAC International, Inc., assumes nor authorizes any person to assume for them any other liability in connection with the sale or use of the products of FAAC S.p.A. or FAAC International, Inc. The warranty hereinabove set forth shall not be deemed to cover maintenance parts, including, but not limited to, hydraulic oil, filters, or the like. No agreement to replace or repair shall constitute an admission by FAAC S.p.A. or FAAC International, Inc., of any legal responsibility to effect such replacement, to make such repair, or otherwise. This limited warranty extends only to wholesale customers who buy directly through FAAC International, Inc.'s normal distribution channels. FAAC International, Inc., does not warrant its products to end consumers. Consumers must inquire from their selling dealer as to the nature and extent of that dealer's warranty, if any.

**This warranty is expressly in lieu of all other warranties expressed or implied including the warranties of merchantability and fitness for use. This warranty shall not apply to products or any part thereof which have been subject to accident, negligence, alteration, abuse, or misuse or if damage was due to improper installation or use of improper power source, or if damage was caused by fire, flood, lightning, electrical power surge, explosion, wind storm, hail, aircraft or vehicles, vandalism, riot or civil commotion, or acts of God.**



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