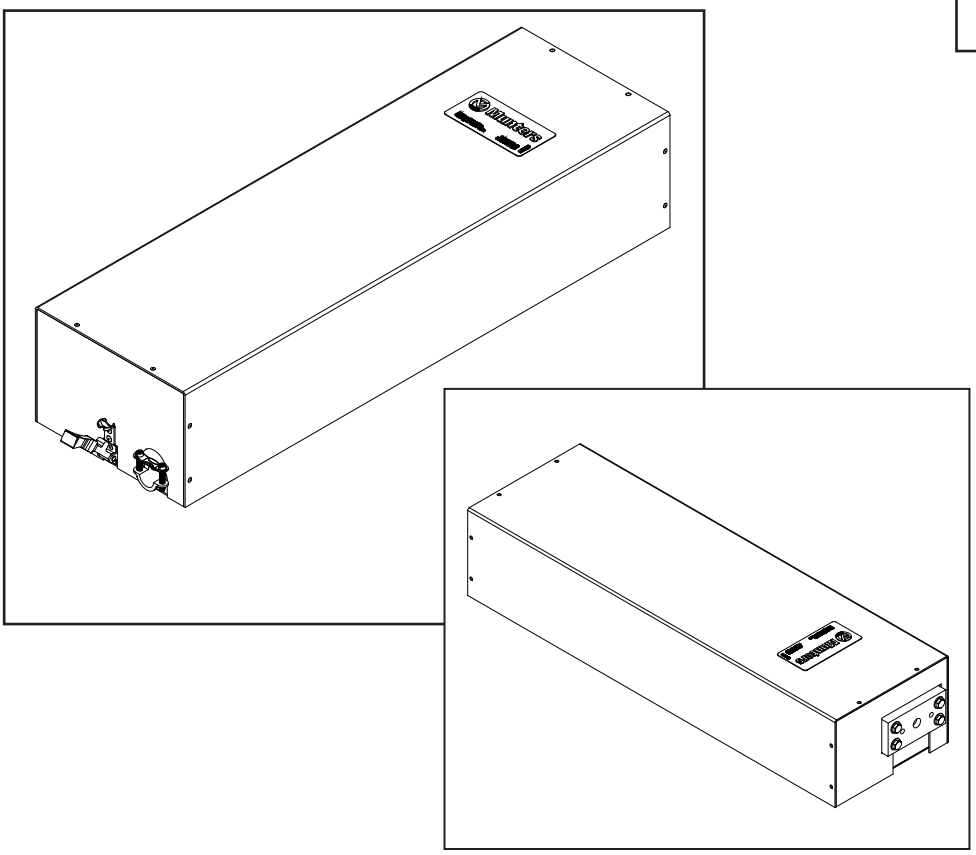
Aerotech
Baffle Actuator

Instruction Manual



BA1701 Series Baffle Actuator

Models: BA1701 • BA1701-30

Munters

BA1701 Series Baffle Actuator

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Munters Baffle Actuator. Munters equipment is designed to be the highest performing, highest quality equipment you can buy. With the proper installation and maintenance it will provide many years of service.

Please Note:

To achieve maximum performance and insure long life from your Munters product it is essential that it be installed and maintained properly. Please read all instructions carefully before beginning installation.

Warranty:

For Warranty claims information see the "Warranty Claims and Return Policy" form QM1021 available from the Munters Corporation office at 1-800-227-2376 or by e-mail at aghort.info@munters.com.

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the "Warranty Claims and Return Policy" shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Munters Corporation.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

Index

Unpacking the Equipment

1.

1.1 Parts List

Before beginning installation, check the overall condition of the equipment. Remove packing materials, and examine all components for signs of shipping damage. Any shipping damage is the customer's responsibility and should be reported immediately to your freight carrier.

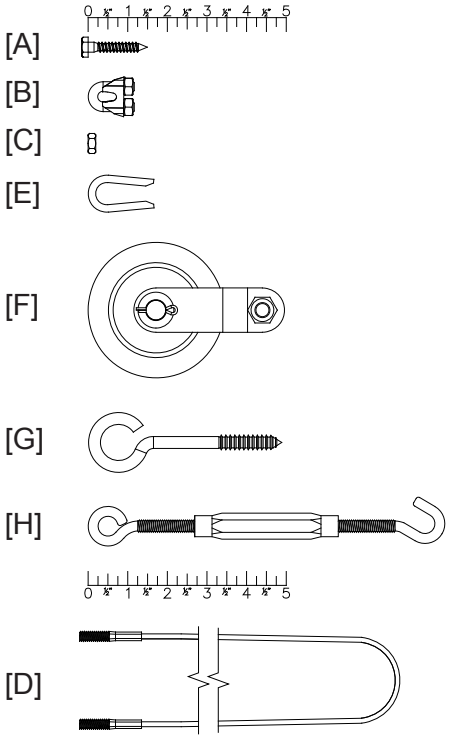
Each BA1701/BA1701-30 includes:

1 - Baffle Actuator

1 - Hardware Package (HP1032)

HP1032 for Baffle Actuator

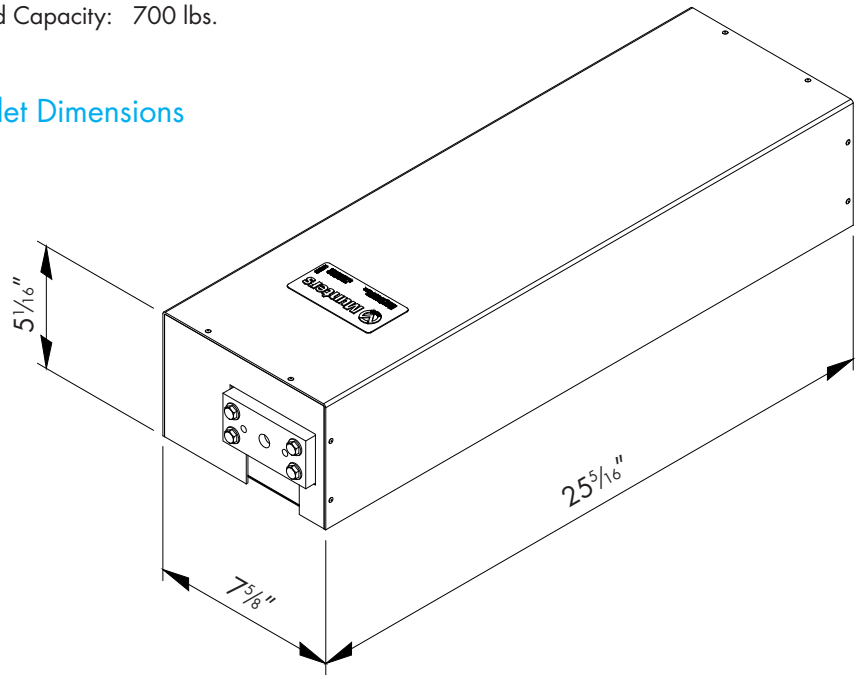
ID	Qty.	Cat. No.	Description
[A]	4	KS2463	¼" x 1.5" Hex Lag Screw, ZP
[B]	2	AC1039	3⁄16" Cable Clamp, ZP
[C]	4	KN1001	¼"-20 Hex Nut, ZP
[D]	1	AC1037	Cable Assembly, 60"L., ¼"-20 THRD ENDS
[E]	1	AC1048	Thimble for ⅛" Dia. Cable, ZP
[F]	4	AC1286	3.5"Dia. Pulley w/ Hanging Bracket, CI
[G]	4	KS2650	5⁄16" x 5" Open Eye Lag Screw, ZP
[H]	2	AC1038	5⁄16" x 9" Hook & Eye Turnbuckle, AL/ZP



Actuator Specifications

Power: 110-120 VAC
Amps: 0.5
Phase: 1 Frequency: 60 Hz
Load Capacity: 700 lbs.

1.2 Inlet Dimensions



Note:

These actuators are designed to open or close Aero-Baffle accordingly from signals received from any one of Munters Air-Monitor Controls or Environmental Computer Controls.

Installation Instructions

2.

Step 1

Install the actuator in the location shown on your ventilation system drawing or as shown in *Figures 1A and 1B.* Secure to framing using (4) Lag Screws [A]. *See Figure 2A* for typical installation of a ceiling mounted actuator. *See Figure 2B* for typical installation of a wall mounted actuator.

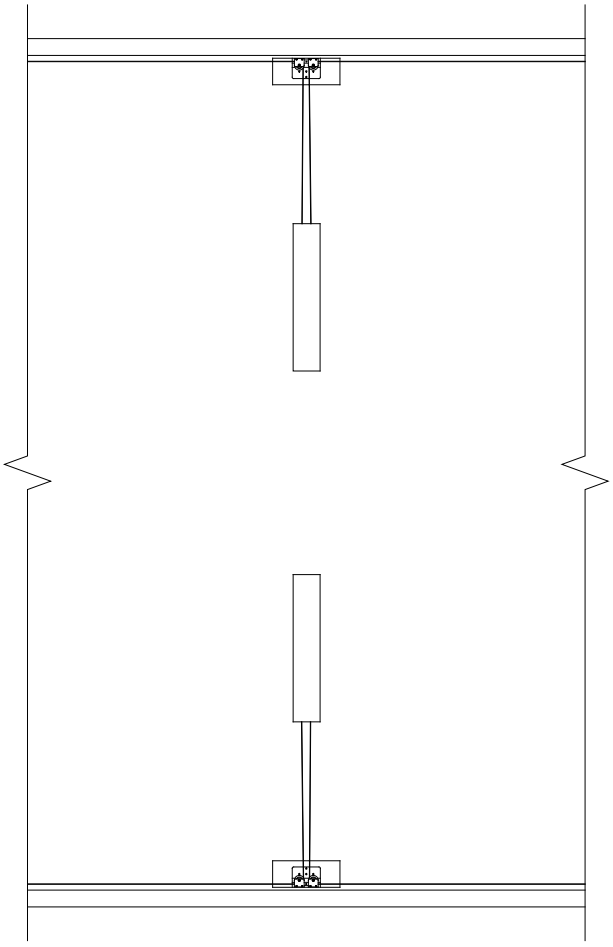


Figure 1A

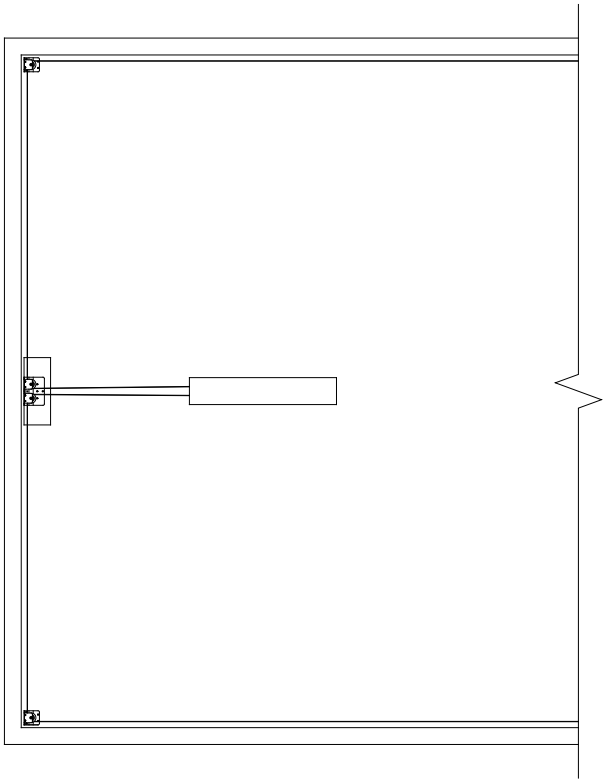


Figure 1B

Figure 2A

CEILING MOUNT

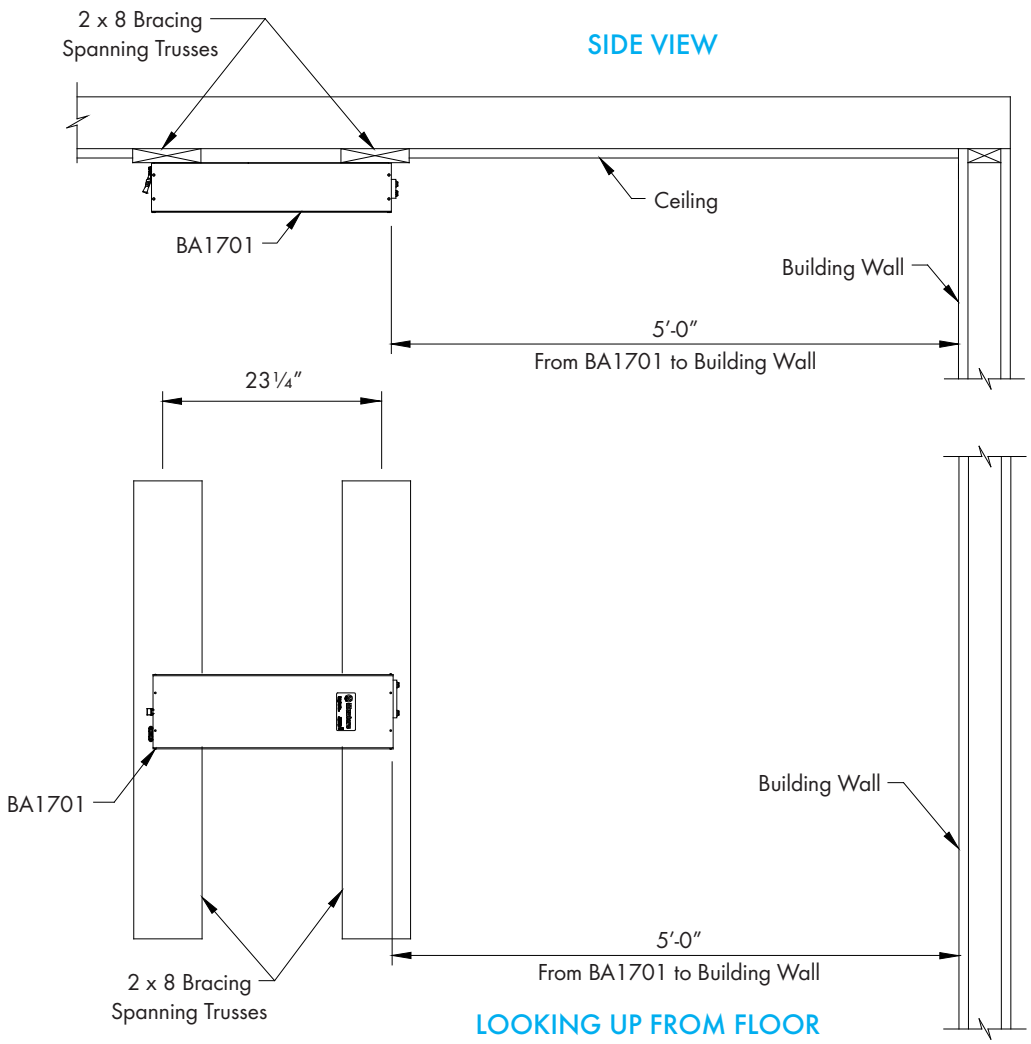
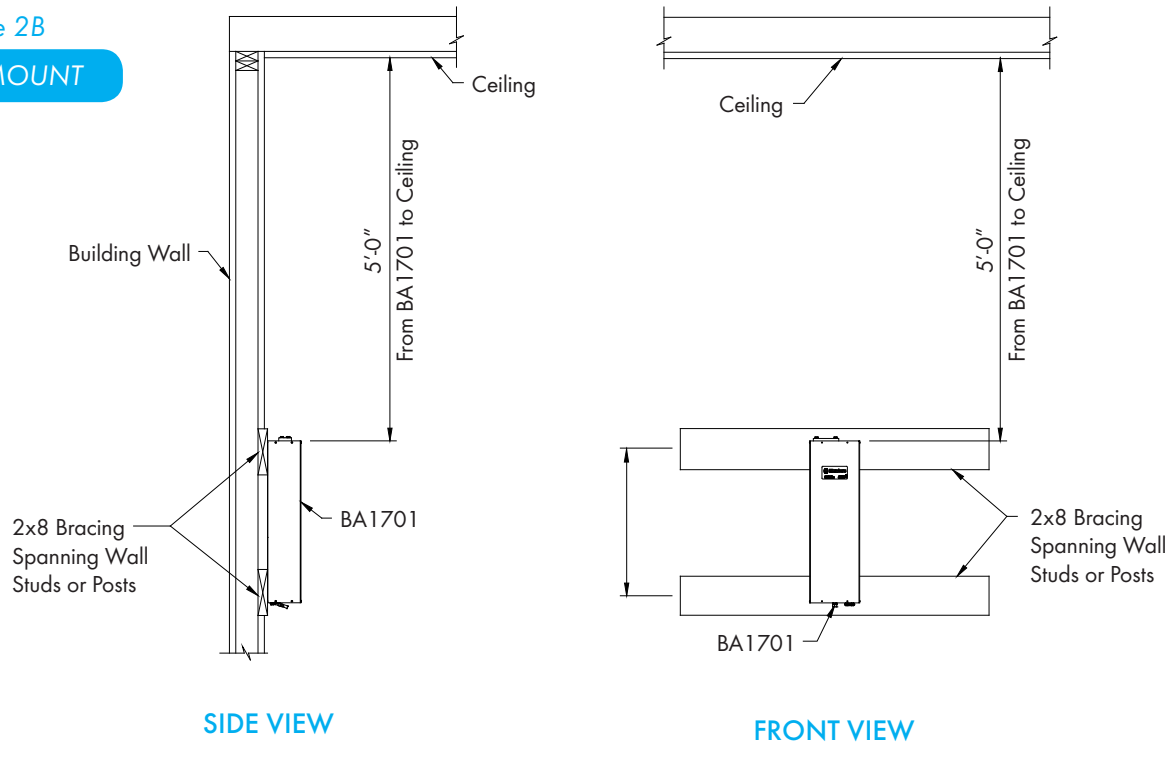


Figure 2B

WALL MOUNT



Step 2

Fold Cable Assembly [D] in a "U" shape and insert 2 threaded ends through nylon block on end of actuator. Pull 2 threaded ends through and attach to the Ball Nut Flange using (4) Nuts [C]. *See Figures 3.*

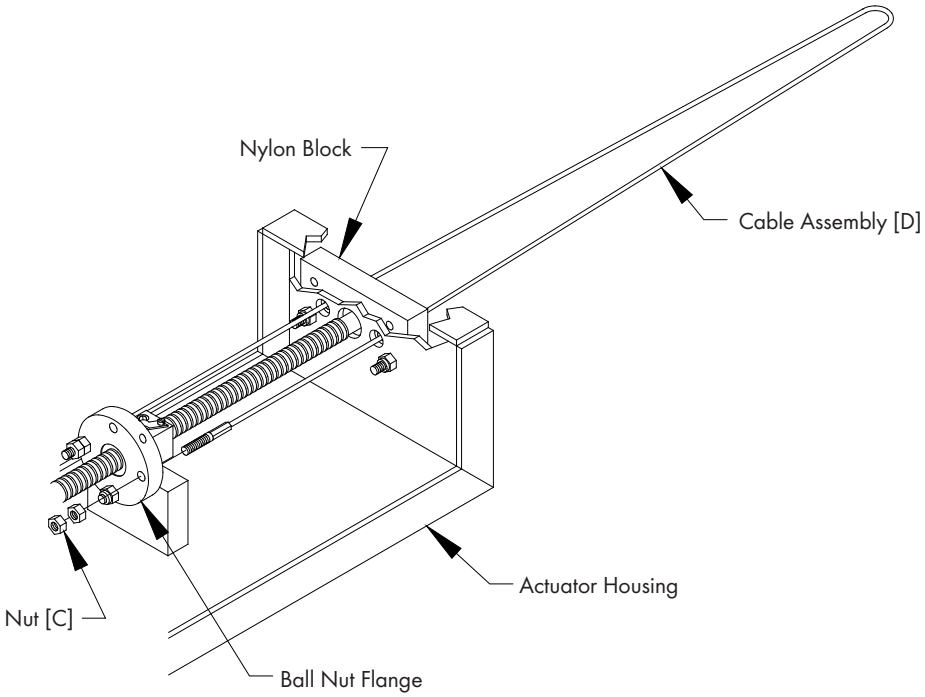


Figure 3

Step 3

Secure Open Eye Lag Screw [G] to wall in direct line with BA1701. Then attach Pulley [F] to Eye Screw as shown. *See Figures 4.*

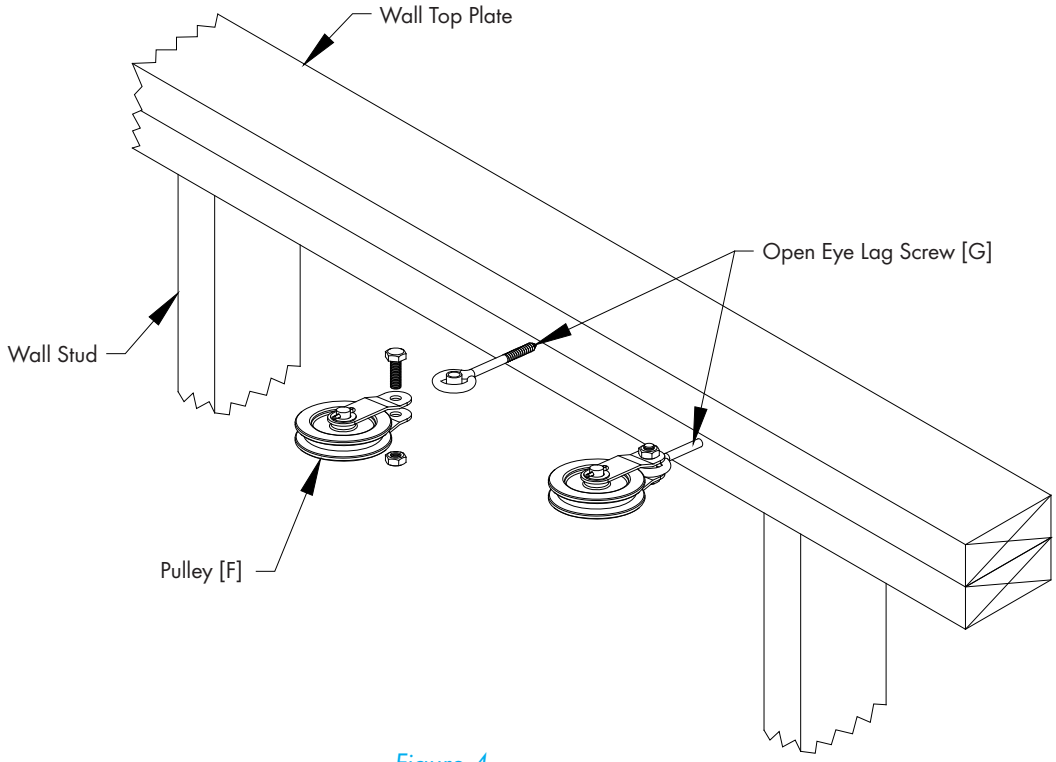


Figure 4

Step 4

Unthread both ends of Turnbuckle [H] until they are 9" long, with an equal amount of threads showing at both ends. Pull the cables attached to the baffle through pulleys and loop ends through eye of turnbuckle and secure with Cable Clamp [B]. *See Figures 5.*

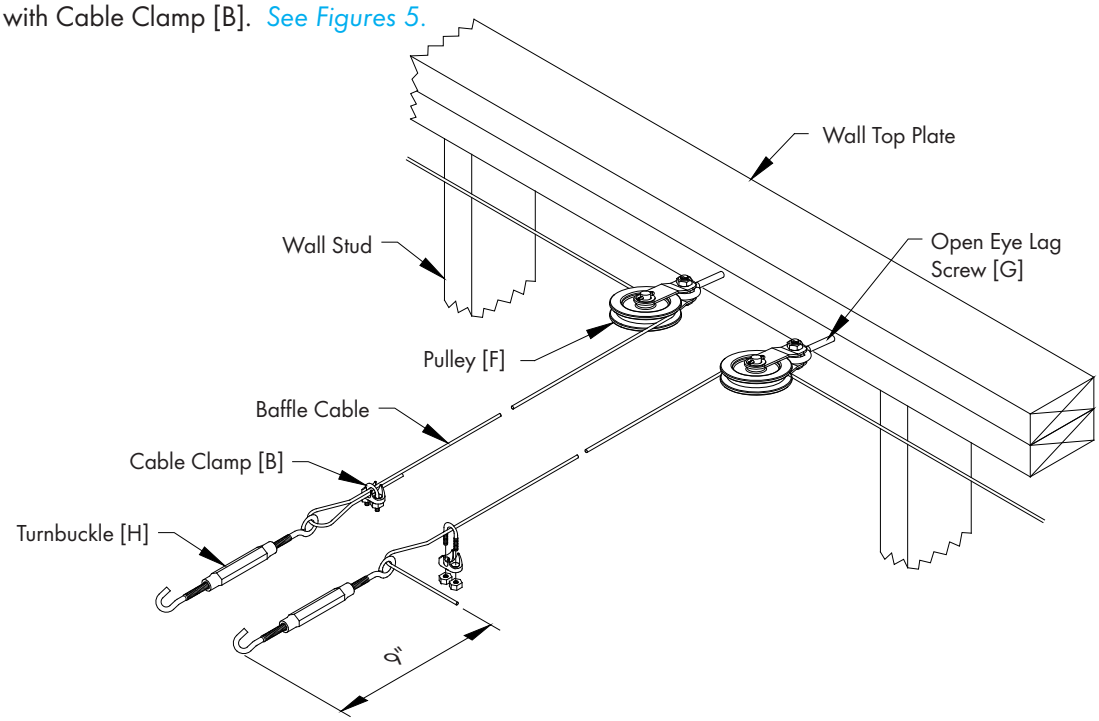


Figure 5

Step 5

Place Cable Thimble [E] over hook end of Turnbuckles [H]. Place Cable Assembly [D] in groove of Thimble [E]. *See Figures 6.*

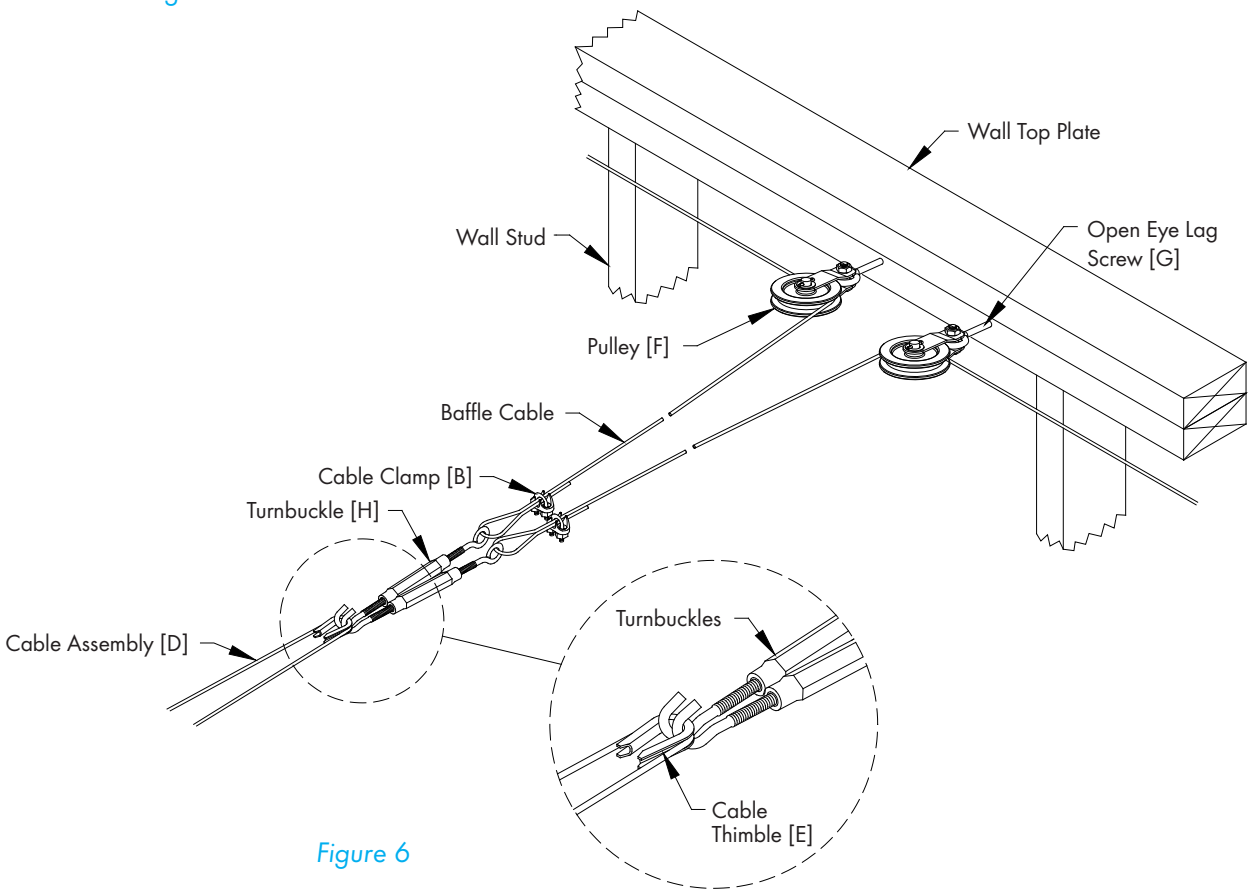
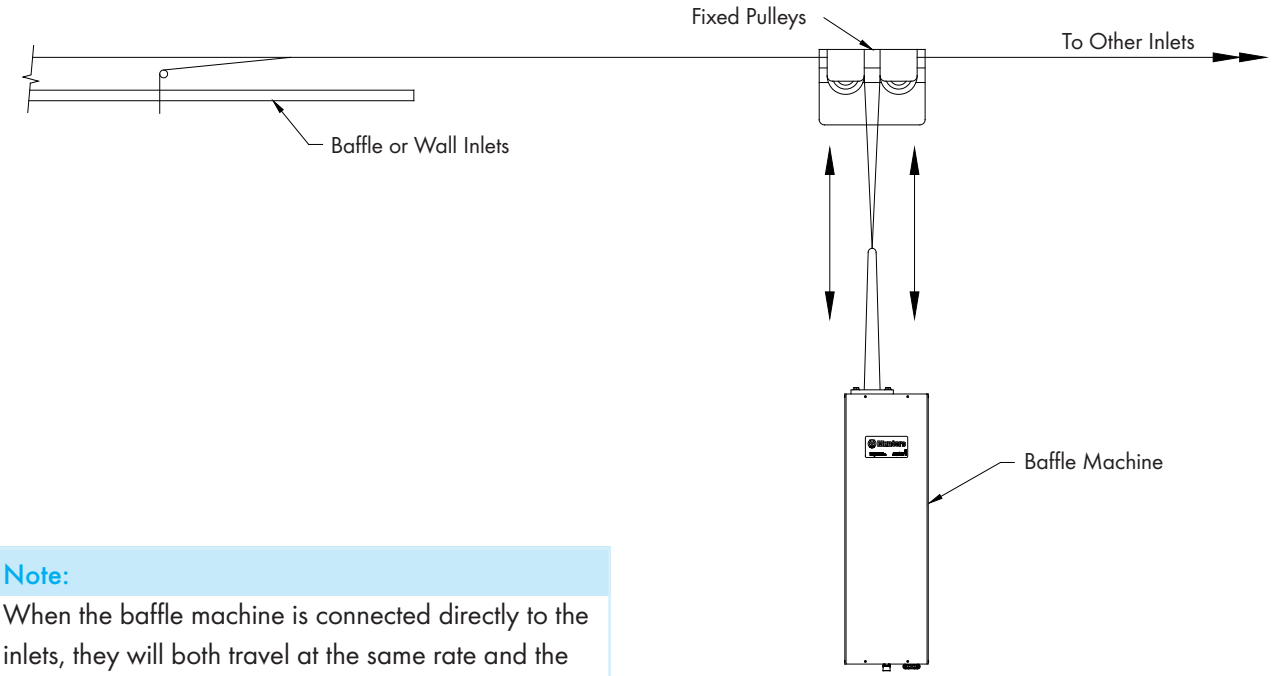


Figure 6

External Cabling Methods

3.

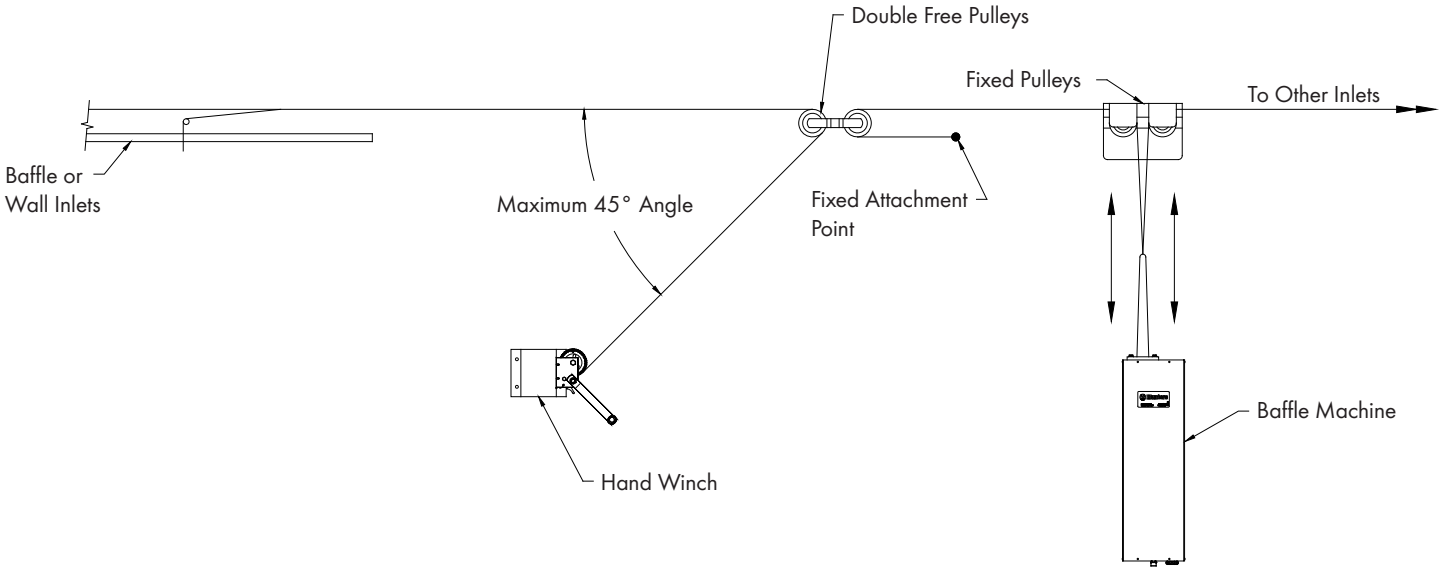
BAFFLE MACHINE AND CABLING WITHOUT HAND WINCH



Note:

When the baffle machine is connected directly to the inlets, they will both travel at the same rate and the normal load will be applied to the curtain machine.

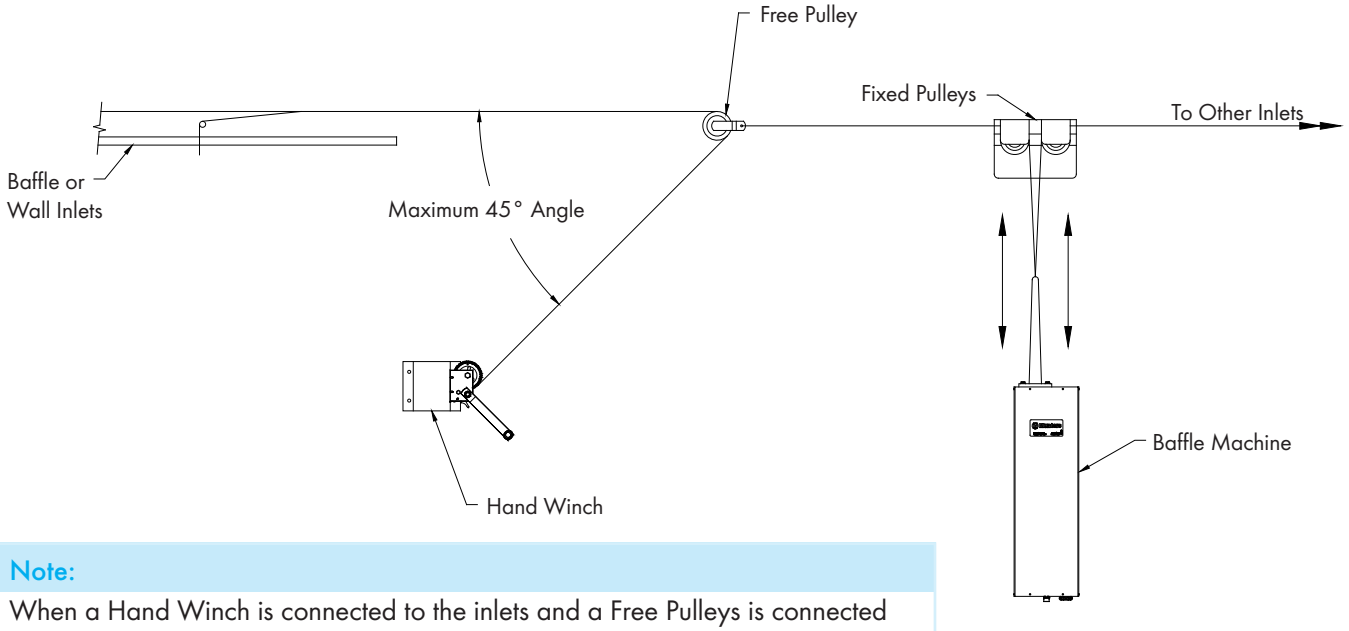
BAFFLE MACHINE AND CABLING WITH HAND WINCH INSTALLED



Note:

When a Hand Winch is connected to the inlets and two free pulleys are connected in line, the inlets will travel at the same rate as the baffle machine. For every 1" the baffle machine travels the inlets will move 1". The normal load will be applied to the baffle machine.

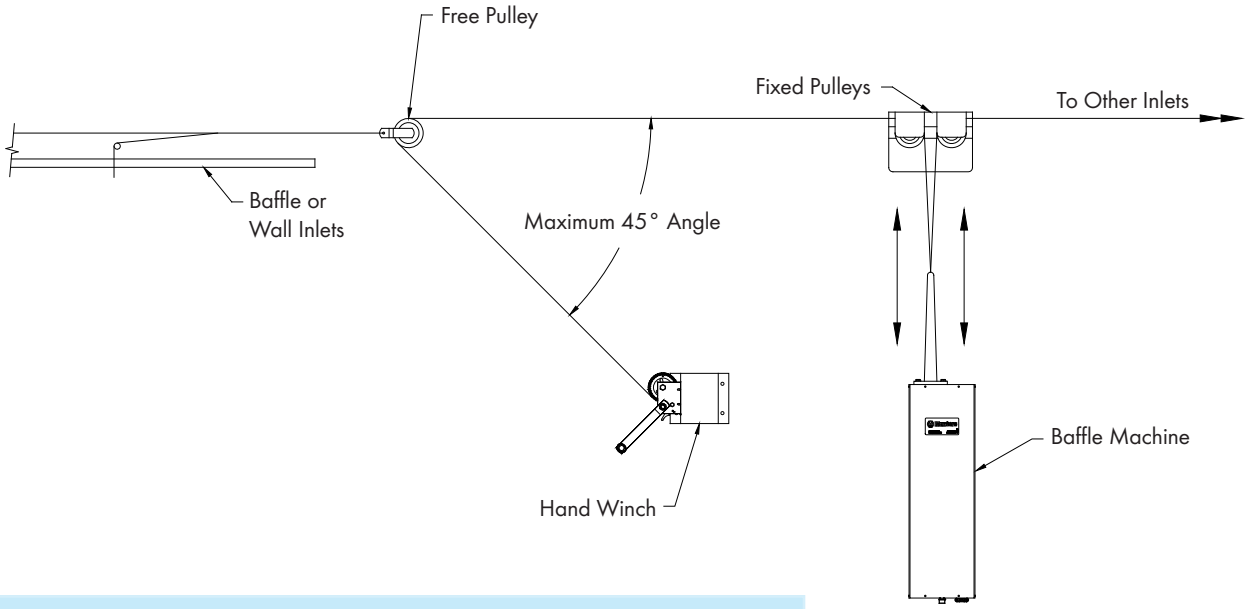
BAFFLE MACHINE AND CABLING WITH HAND WINCH INSTALLED



Note:

When a Hand Winch is connected to the inlets and a Free Pulleys is connected to the baffle machine, the inlets will travel at twice the rate of the baffle machine. This is because for every 1" the baffle machine travels the inlets will move 2". Twice as much load will be applied to the baffle machine, therefore, it will have half the pulling capacity.

BAFFLE MACHINE AND CABLING WITH HAND WINCH INSTALLED



Note:

When a Hand Winch is connected to the baffle machine and a Free Pulleys is connected to the inlets, the inlets will travel at half the rate of the baffle machine. This is because for every 1" the baffle machine travels the inlets will move ½". Only half of the load will be applied to the baffle machine, therefore, it will have twice the pulling capacity.

Electrical Wiring

4.

Step 1

All wiring should be in accordance with National, State and Local electrical codes. Make electrical connections as shown on terminal block label inside actuator.

Step 2

Each actuator should have independent overload protection matched to its motor. (Munters Circuit Breaker Catalog No. SY2010

Step 3

Open, Close and Neutral outputs from the air monitor control are to be wired to Open, Close and Neutral inputs in actuator. *See Figure 7.*

Step 4

Turn on the electrical supply to the Actuator and the Air-Monitor Control. It is now ready to operate.

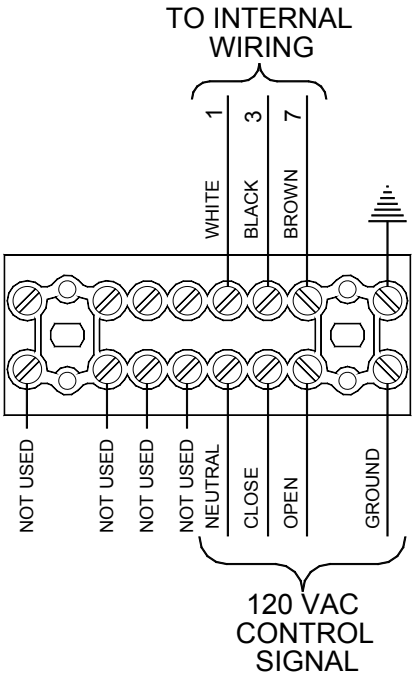


Figure 7

Operation

5.

Note:

The baffle machine is shipped with the Open and Close Limit Switches set for mid range operation. *See Figure 8.* These switches **MUST** be set for your installation to assure proper operation.

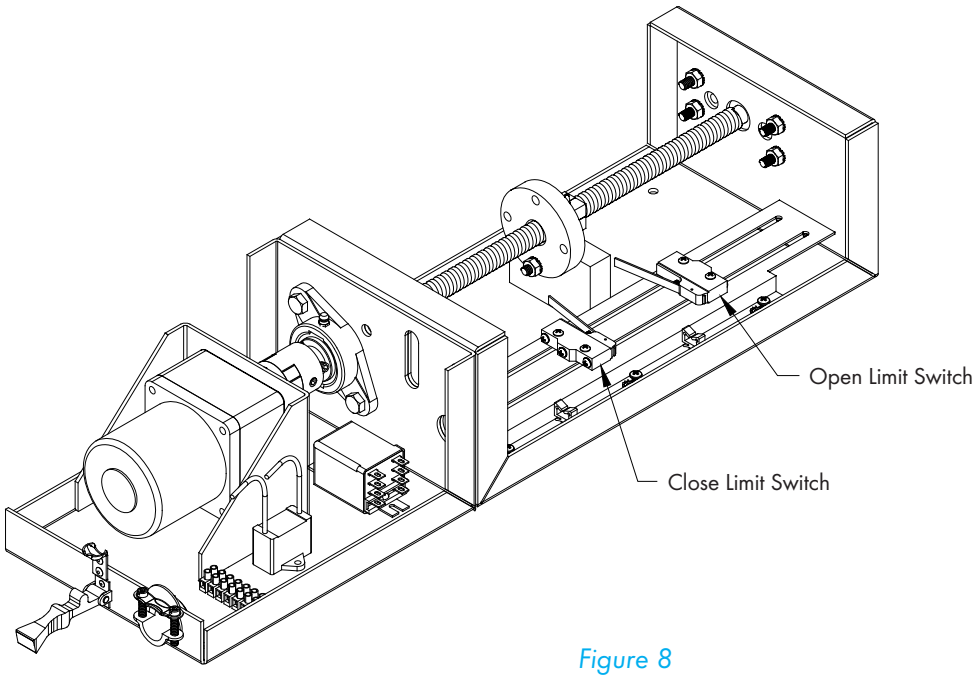


Figure 8

Adjust Close Limit Switch

Step 1

Loosen 2 screws in Close Limit Switch and slide switch back towards motor. Manually run Baffle Machine to full close position for baffles or inlets. Slide Close Limit Switch against Guide Block so that it activates Close Limit Switch and tighten screws. *See Figure 9.* Manually run Baffle Machine open about 1" and back close to check for proper full close position.

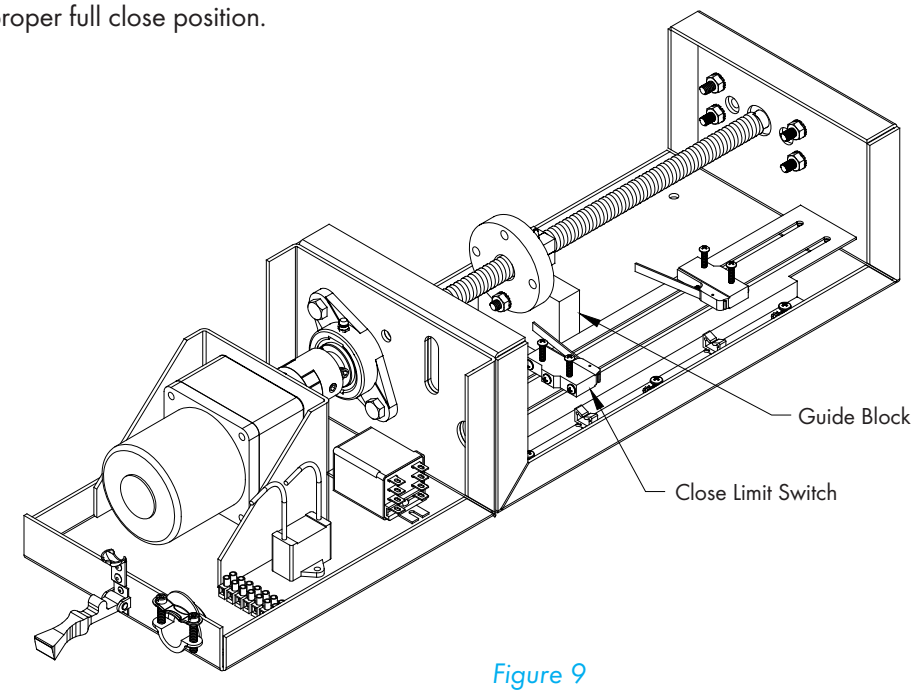


Figure 9

Adjust Open Limit Switch

Step 2

Loosen 2 screws in Open Limit Switch and slide towards end of machine. *See Figure 10.* Manually run Baffle Machine to full open position for baffles or inlets. Slide Open Limit Switch against Guide Block so that it activates Open Limit Switch and tighten screws. *See Figure 11.* Manually run Baffle Machine close about 1" and back open to check for proper full open position.

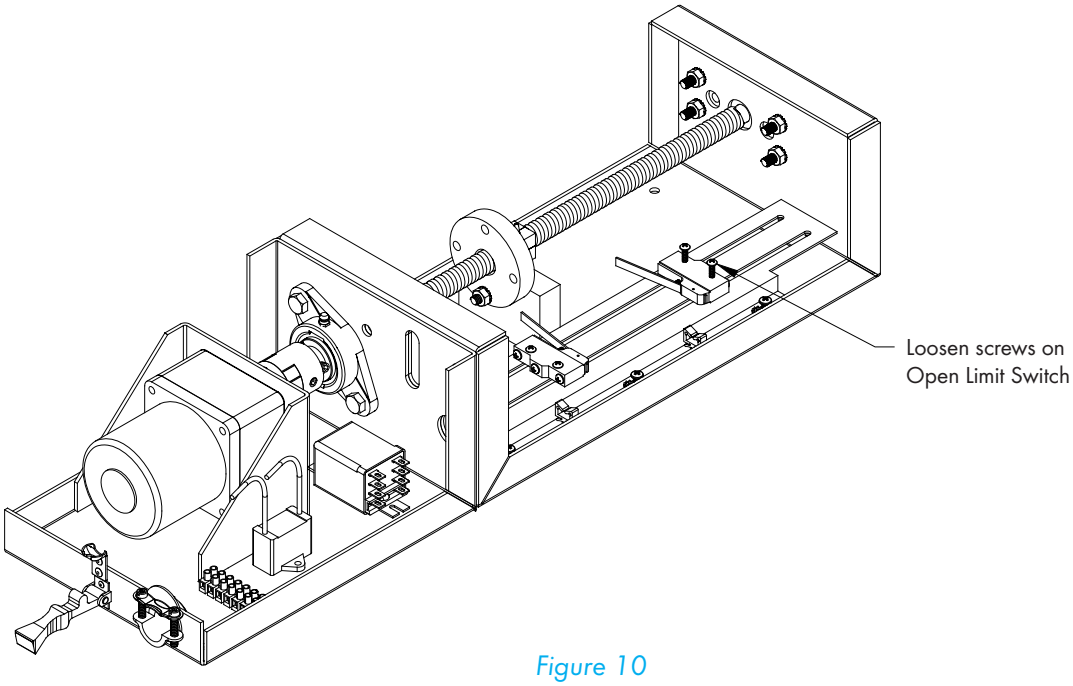


Figure 10

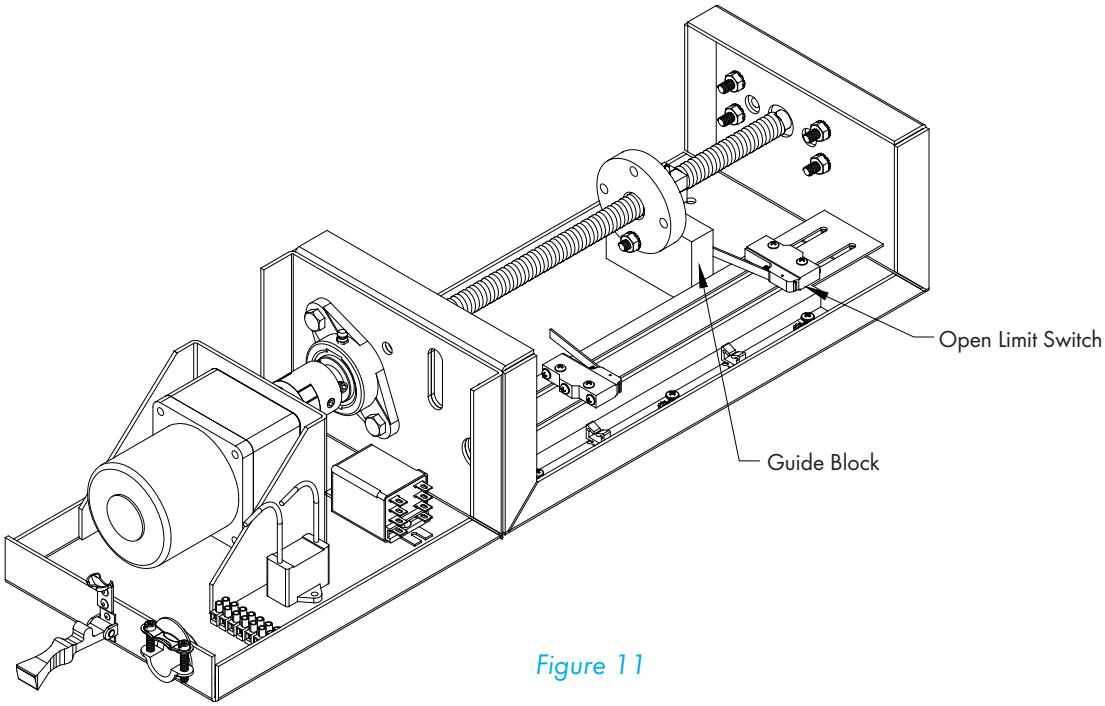


Figure 11

Step 3

Place all switches and controls in AUTO. Test operation of Baffle Machine using Air-Monitor Control or Environmental computer control.

Maintenance

6.

1) REMOVE DUST BUILDUP FROM BAFFLE MACHINE: Using a soft brush or dry cloth. **Never** use liquids to clean electrical cords or wires.

2) GREASE BALL SCREW AND BEARING: A high quality Lithium based grease should be applied to the ball screw, bearing and pulleys every 6 months depending on the frequency of operation. Also, check to make sure that the pulleys will turn freely.

3) CHECK CABLES: Confirm that all cables are in good condition and are properly positioned in the groove of the pulleys. Check this regularly to avoid damage to the building or equipment. Check any clamps being used to verify they are secure.

4) CHECK LIMIT SWITCHES: Verify that the limit switches are adjusted to allow the air inlet to open and close within the inlets operating range. This should be performed every 6 months.

5) CHECK ELECTRICAL CONNECTIONS: With the power turned off to the unit, verify that the termination points are secure and all wires are in good condition. This should be done yearly.

6) CHECK GEARMOTOR: No lubrication or adjustment is needed on the gearmotor. Some maintenance may be necessary for reliable operation if the unit will sit idle for an extended period of time. If the unit will sit idle for more than one month, the following steps should be performed before actuator is put back into service.
   Step 1 - Apply power to the actuator in the open and then the close direction.
   Step 2 - Verify that the gearmotor will operate in both directions.
   Step 3 - If the unit will not operate, refer to the Troubleshooting procedures for further instructions.

Troubleshooting

7.

In order to make these checks a voltmeter is required. All actuator circuitry is 120VAC. To troubleshoot, power must be on. Use EXTREME CAUTION when checking voltage. DO NOT attempt these test if you are not experienced in working on electrical control systems. Instead, contact a qualified electrician or service technician. Refer to the following wiring diagrams while trouble shooting.

Figure 12: BA1701/ BA1701-30

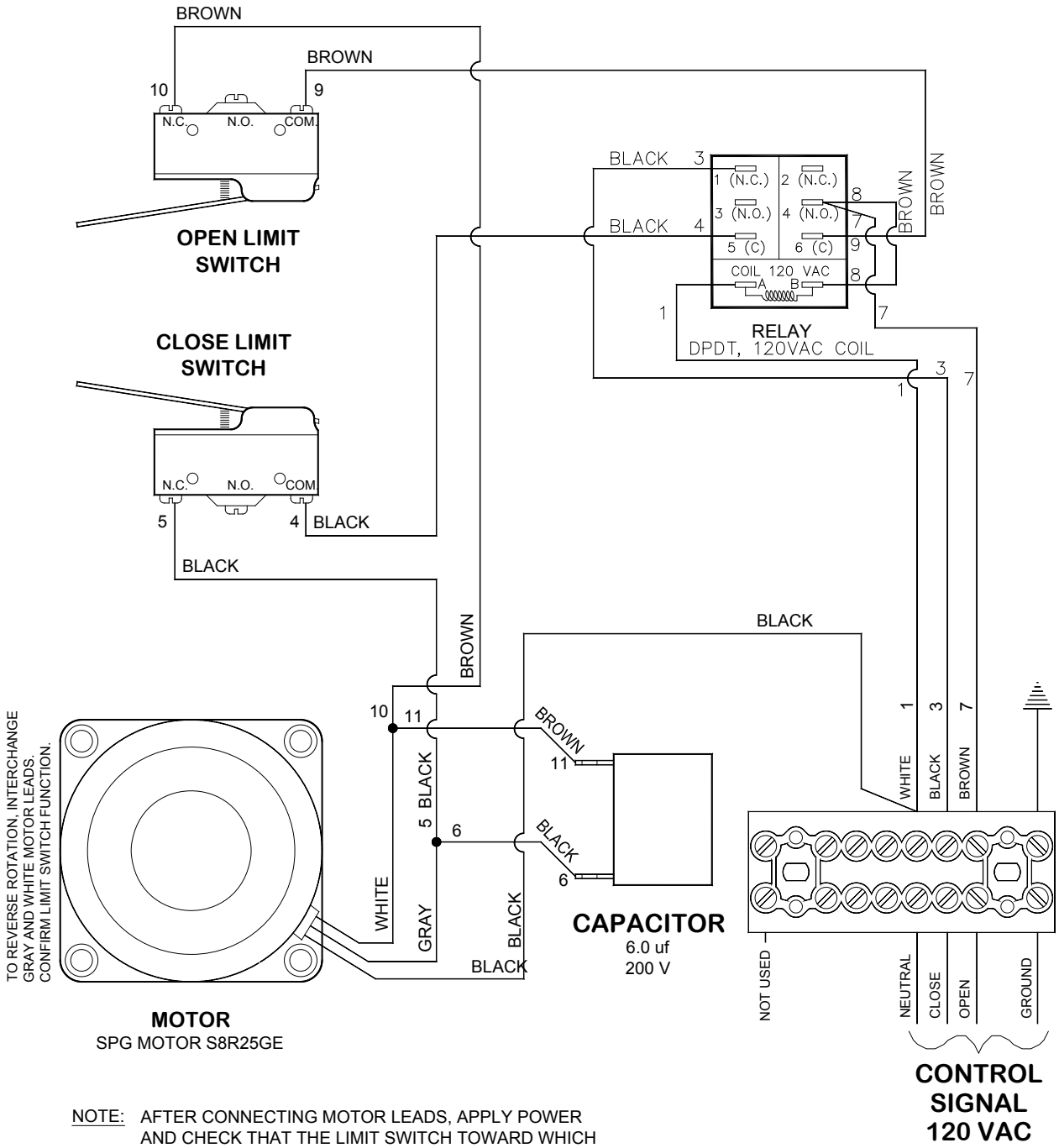
For BA1701:

A. CLOSE:

1. Check for 120VAC at white and black wires on motor. If voltage is present, repair or replace motor
2. Check for 120VAC at #4 and #1(neutral). If voltage is present, replace limit switch.
3. Check for 120VAC at #3 and #1(neutral). If voltage is present, replace DPDT relay.
4. Check output of Actuator control to make sure the actuator is receiving a signal to close. If voltage is not present, check main electrical service panel in building and wiring from control.

B. OPEN:

1. Check for 120VAC at gray and white wires on motor. If voltage is present, repair or replace motor
2. Check for 120VAC at #9 and #1(neutral). If voltage is present, replace limit switch.
3. Check for 120VAC at #7 and #1(neutral). If voltage is present, replace DPDT relay.
4. Check output of Actuator control to make sure the actuator is receiving a signal to open. If voltage is not present, check main electrical service panel in building and wiring from control.



NOTE: AFTER CONNECTING MOTOR LEADS, APPLY POWER AND CHECK THAT THE LIMIT SWITCH TOWARD WHICH THE CABLE MOUNTING FLANGE IS MOVING WILL STOP MOTOR. IF IT DOES NOT, INTERCHANGE GRAY AND WHITE MOTOR LEADS AND CHECK AGAIN.

Figure 12
BA1701/ BA1701-30

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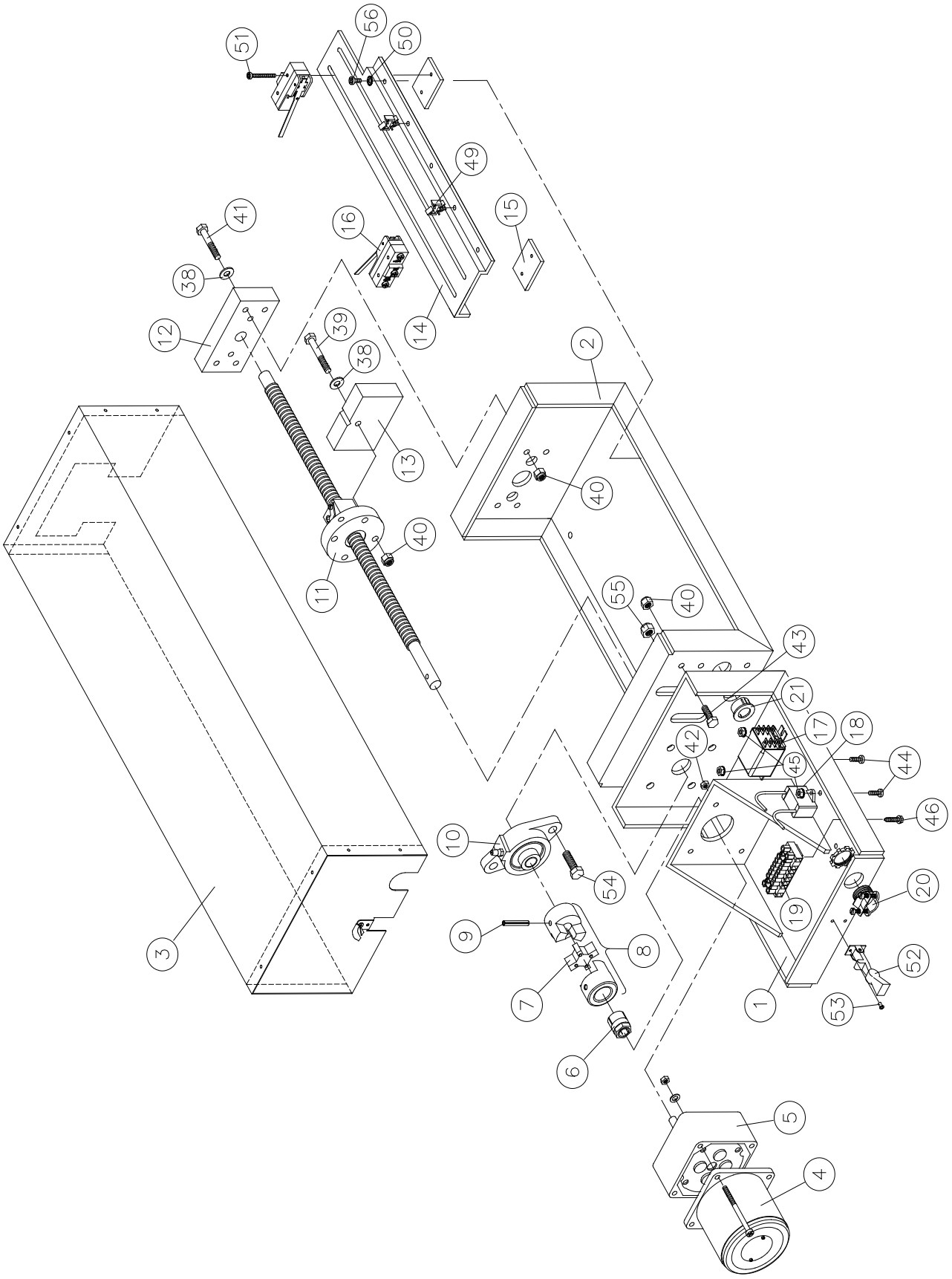
Exploded View

8.



Item	Catalog No.	Description	Qty.
1	AC1330	Lower Frame Section with Base, CTD-GZ	1
2	AC1329	Upper Frame Section, CTD-GZ	1
3	AC1333	Cover Only for BA1701, AL	1
4	AC1475C	Motor (4RJ20), 120V, with Capacitor	1
5	AC1443 AC1446	Gearhead, 360:1, S8DA360B1A-A757 (Replaces 4GB360KA), BA1701 Gearhead, 60:1, S8DA60B1A-A765 (Replaces 4GB60KA), BA1701-30	1
6	FP2053	Prop Fastener, 5⁄16" I.D. x 3⁄4" O.D.	1
7	AC1345	Spider Insert, 070 Coupler, RB	1
8	AC1328	Complete 070 Coupler 0.5" x 0.75"	1
9	KP1010	Slotted Spring Pin, 3⁄16"D. x 1.25"L., BLK	1
10	AC1070	Bearing, 2-Bolt Flange, 1⁄2" Bore, Set Screws, CI	1
11	AC1080	Ball Screw with Nut and Flange	1
12	AC1308	Cable Guide Block, PL	1
13	AC1307	Ball Nut Guide Block, PL	1
14	AC1331	Electrical Mounting Plate, GZ	1
15	AC1332	Retainer Plate For Limit Switch, GZ	2
16	AC1019	Snap-Acting Switch with EXT Spring, 15A	2
17	AC1120	DPDT Relay, 20A/1.5HP Max., 120VAC Coil, Clear Enclosure	1
18	AC1427	Capacitor, 6MFD, 250VAC, Sealed, 4" Leads	1
19	FC1095	8-Pole Terminal Block, 12 AWG Max, 20A	1
20	KE1151	Connector, C500 3⁄8" Romex Clamp, ZP	1
21	KX1101	Snap Bushing, 7⁄8"D, WHT or BLK, PL	1
38	KW3002	Flat Washer, 1⁄4" Type-A, Narrow, SS	5
39	KS1006	Cap Screw, 1⁄4"-20 x 1.75" Hex, SS	1
40	KN1558	Nut, Keps, 1⁄4"-20, ZP	8
41	KS1006	Cap Screw, 1⁄4"-20 x 1.75" Hex, SS	4
42	KN1555	Nut, Keps, M5-8 Metric, ZP	4
43	KS1015	Cap Screw, 1⁄4"-20 x 3⁄4" Hex, ZP	3
44	KS0655	Machine Screw, #6-32 x 5⁄8" PHL-PN, ZP	2
45	KN1552	Nut, Keps, #6-32, ZP	2
46	KS2156	Tap Screw (AB), #8 x 5⁄8" PHL-PN, ZP	2
49	KE1152	Push Mount Wire Holder, 7⁄16" I.D., NY	2
50	KW3651	Locking Washer, #8, EXT-STAR, ZP	3
51	KS2153	Tap Screw (AB), #6 x1.25" PHL-PN, ZP	4
52	AC1334	Draw Latch, Flexible, with Keeper & Hardware	1
53	KR1061	Pop Rivet, 1⁄8"D x 3⁄16"-1⁄4" Grip, SS	1
54	KS1017	Cap Screw, 5⁄16"-18 x 1" Hex, SS	2
55	KN1706	Nylock Nut, 5⁄16"-18, ZP	2
56	KS0651	Machine Screw, #8-32 x 3⁄8" PHL-PN, ZP	3

BA1701 Baffle Actuators are developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376

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