

**SECTION 08373
HIGH SPEED ROLLING DOORS**

PART 1 GENERAL

1.01 SUMMARY:

- A. Work described in this section includes manufacture, delivery and installation of high speed rolling doors, control devices and actuator systems.
- B. Related work is described in other sections:
 - 1. Field painting
 - 2. Electrical connections

1.02 REFERENCES:

- A. Applicable standards; standards of the following, as referenced herein:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. National Electrical Manufacturer's Association (NEMA)
 - 3. Underwriters Laboratories, Inc. (CUL)

1.03 SUBMITTALS:

- A. Product Data: Submit manufacturers' product data, roughing-in diagrams and installation instructions for each type and size of high-speed rolling door. Provide operating instructions, maintenance information and complete information describing the operating system including rough-in instructions.
- B. Shop Drawings: Submit shop drawings for special components and installations that are not fully dimensioned or detailed on the manufacturer's data sheets, including equipment interconnection diagrams.

RETAIN BELOW FOR EXTERIOR APPLICATION

1.04 PERFORMANCE REQUIREMENTS:

- A. Wind Loading: High speed rolling door to withstand a windload condition of 20 lbs./sq.ft. (88 mph) at standard pressure and temperature.

1.05 QUALITY ASSURANCE:

- A. Furnish each high-speed rolling door as a complete unit produced by one manufacturer, including hardware, accessories, mounting and installation components. Furnish high-speed rolling doors by one manufacturer for the entire project.

- B. Inserts and Anchorages: Furnish fasteners and spacers as required to facilitate installation. If special requirements are necessary, coordinate those requirements with the general contractor.

1.05

WARRANTY:

- A. Manufacturer shall warrant:
1. SBR fabric for the life of the door, labor limited to one (1) year.
 2. Optional EDPM fabric for five (5) years, labor limited to one (1) year.
- B. Manufacturer shall warrant mechanical and electrical components against defects in material and workmanship for (2) years, labor limited to one (1) year.

PART 2

PRODUCTS

2.01

MANUFACTURER:

- A. Acceptable product, subject to compliance with specified requirements:

As provided by PMH Material Handling 888-557-1515 Chuck Phillips

2.02

MATERIAL AND COMPONENTS:

- A. Door Panel:
1. Fabric:
 - a. 2 layers of Styrene Butadiene Rubber (SBR) each 1/8" (0.8mm) thick, 70 durometer; sandwiched with 1-ply, 110lbs (50kg) polyester cord center
 - b. Complete with bonded SBR bevelled continuous windlocks, providing normal resiliency and flexibility at temperatures ranging from -40° F to +180°F (-40°C to +85°C).
 2. Characteristics:

Breaking strength 1100 lbs/in/ply
 3. Standard color Black ** Also available in blue, or grey EPDM, flame-retardant self-extinguishing black SBR and black nitrile (specifications may vary). **Color and fabric type selected by Architect upon approval of manufacturer.
- B. Door Header
1. Door roll
 - a. Fabricate 8 5/8" (219 mm) diameter, steel tube from 0.188" (4.75 mm) steel complying with ASTM A513.
 - b. Drum tube deflection shall not exceed 0.03" per foot (2.5 mm / M) of opening width
 - c. Drive barrel shafts are constructed of 2" (50.8 mm) diameter C1045 bolt-on steel shafts
 2. Idler
 - a. Fabric guiding barrel shall be constructed of minimum 4" (102 mm) O.D. round tubing with a minimum wall thickness of 0.134" (3.4 mm) and supported by 1 1/2" (32 mm) diameter C1018 steel shafts.

3. Top plates
 - a. Constructed of ¼” (6 mm) hot-rolled steel laser-cut plates with heavy-duty, self-aligning bearings with cast iron housings to support both the spring and idler barrels. 2” (50.8 mm) diameter shaft bearing shall be load-rated at 10800 lbs (48000N) dynamic and 6400 lbs (28500 N) static. 1 ½” (32 mm) diameter idler shaft bearing shall be load-rated at 8150 lbs ((36000 N) dynamic and 4400 lbs (19600 N) static.
 - b. To include top roll alignment plates for installation
4. Counterbalance System:
 - a. Pre-mounted with evenly balanced 100K cycle or 200k cycle torsion springs with protective hood
 - b. Shall provide inertia catching device for non-counterbalanced doors over 12’ wide or 12’ tall.
5. Truss
 - a. Shall brace top plates with spreader bars, sized with a minimum 2 ½” X 2 ½” X ¼” steel angles with diagonal bracing to support loads of up to 2000lbs.

Bottom profile:

1. Bottom beam
 - a. Bottom bar shall extend the full width of the curtain, sufficient to maintain the bottom edge of the curtain parallel to the door threshold at all times. The bottom bar shall be constructed of 2 ½” X 2 ½” X 0.25” (63.5 X 63.5 X 6.35mm) steel angle and 3” X 0.188 (76.2 X 4.78 mm) flat bar bolted together and shall have a breakaway centre section to reduce risk of damage during accidental impacts and provide ease of straightening, allowing for simple re-assembly.
 - b. 6” tall weatherproof rubber loop made of EPDM able to seal uneven finished floors
2. Reversing edge
 - a. Rubber EPDM profile shall be 2.25" (57 mm) high. Designed to hold and protect the watertight electric edge.
 - b. Fail safe electric reversing edge to stop and reverse door upon contact.

Side frames

1. Frames
 - a. Frame assemblies shall be constructed of steel members to form a slot of sufficient depth to allow the thicker edges of the rubber curtain windlocks to move freely in the guides at all times. Steel members are to be of sufficient thickness and rigidity to maintain the windlocks within the guides at curtain pressures of up to 0.96 kPa (20 lbs. per square foot), while enabling the windlocks to break away during impacts that generate pressures beyond 20 lbs. per square foot (0.96 kPa).
 - b. Side frame structural rectangular steel tube 2” X 5” X ¼” (50.8 X 127 X 6 mm), and structural steel 3” X 5” X ¼” (76 X 127 X 6 mm) angle frames to support maximum header weight
 - c. Provide side frame shelf for top roll alignment
2. Paint

- a. Painted with durable, chemical and corrosion resistant coating
- b. Color: orange

E. Photocell

- a. Provide an inline thru beam photocell in proximity to door line.
- b. To stop and reverse door upon object detection.
- c. Provide inline photocell in proximity to door line.

F. Electrical Operation:

1. Drive

- a. Shall be electrically operated by a heavy-duty drive unit featuring a self-inhibiting worm gear. The motor and gearbox shall be designed for high cycle operation. Door position shall be controlled by top and bottom limit switch. Basic operation features shall include a manual disengagement lever to place the door in manual operation mode. A safety disengagement switch shall be included with the disengagement mechanism.
- b. To include back-up safety top and bottom limits
- c. Shall be wired and labeled with a minimum 6 ft (1.8 M) lead

2. Electrical Motor:

- a. Provide high-starting torque, reversible intermittent duty, enclosed non-ventilated electric motor, sized to move door in either direction, from any position.
- d. Power Supply:
 - 1) Primary Voltage: Coordinate wiring requirements and current characteristics of door electrical system with building electrical system. Supply shall be rated at ** 220**460**575** volt, (3) phase, 60 Hz, 20 amps.

2. Control Panel:

- a. Drive shall be controlled by an ACS50
- a. Panel enclosure shall be NEMA 4.
- b. Internal control box wiring shall be completed by manufacturer and shall be CUL listed
- d. Control functions determined by dip switch settings
- e. Top and bottom limits to be adjustable from the drive
- g. Control panel shall include an adjustable, automatic closing timer, emergency stop, two actuating push button and a cycle counter.

4. Actuators

- a. Optional actuation systems available shall be NEMA 4 rated or equivalent **Push button stations ** pull switches**radio control system including receiver, antenna and remote transmitter. System shall operate at 310 MHz, with 265 separate programmable security codes.**Photocell featuring an infrared beam which maintains "open" signal when interrupted** Metallic activated floor loop receiver reset system for

vehicle detection. **Motion detector utilizing Doppler radar to detect motion.**

G. Protection features:

1. Provide thermal protection to protect motor from temperature build-up.
2. Provide switch to electrically disconnect control circuitry during manual operation.
3. Provide running timer to protect drive unit from motor run-on.
4. Provide safety edge system that is continuously monitored and prevents door from closing if a fault is detected.
5. Provide stop feature to momentarily stop door in any position.
6. Provide a photocell tested every cycle

2.03

OPTIONS:

- A. Warning horn and light shall indicate when door is about to close.
- B. Windbar shall provide added protection against **heavy wind** and extreme pressure differentials.
- C. Full Roll Cover: Fabricate from 20 gauge galvalneal. Top shall have a 6" slope from back to front.
- D. Window: Provide non-removable PVC window, size 10" by 18".
- E. 200k cycle torsion spring.
- F. Consult factory for custom applications.

PART 3

EXECUTION

3.01

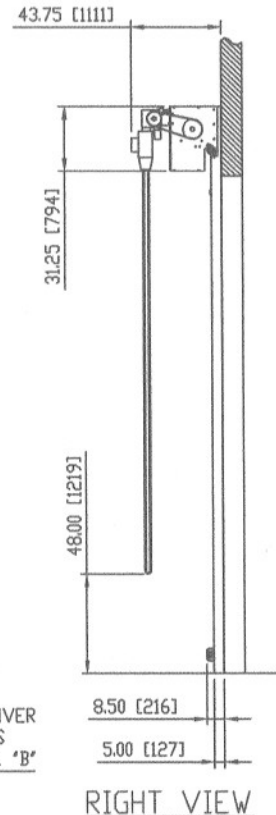
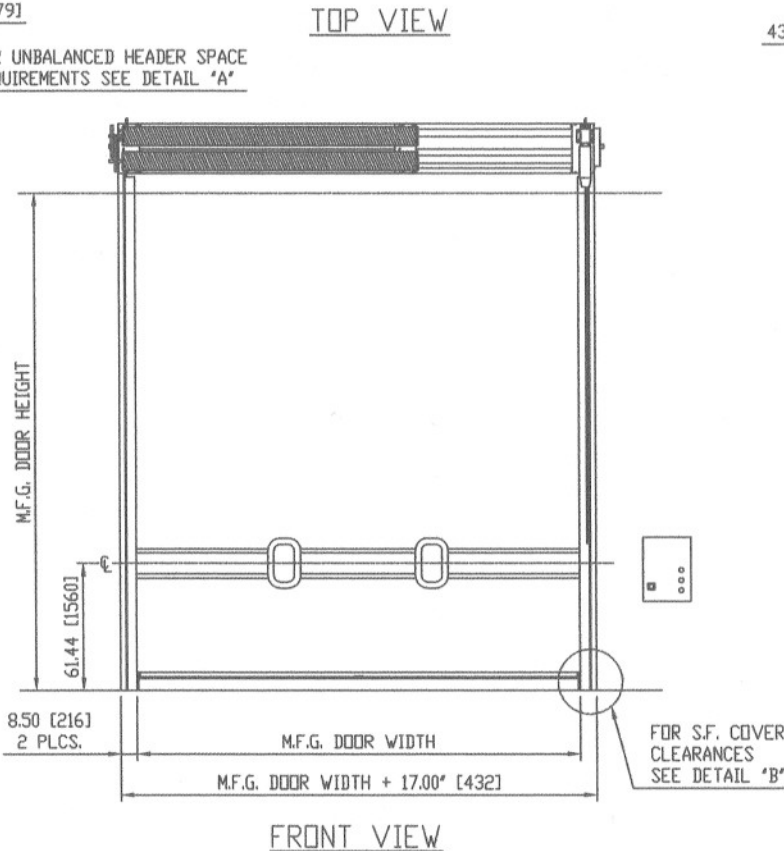
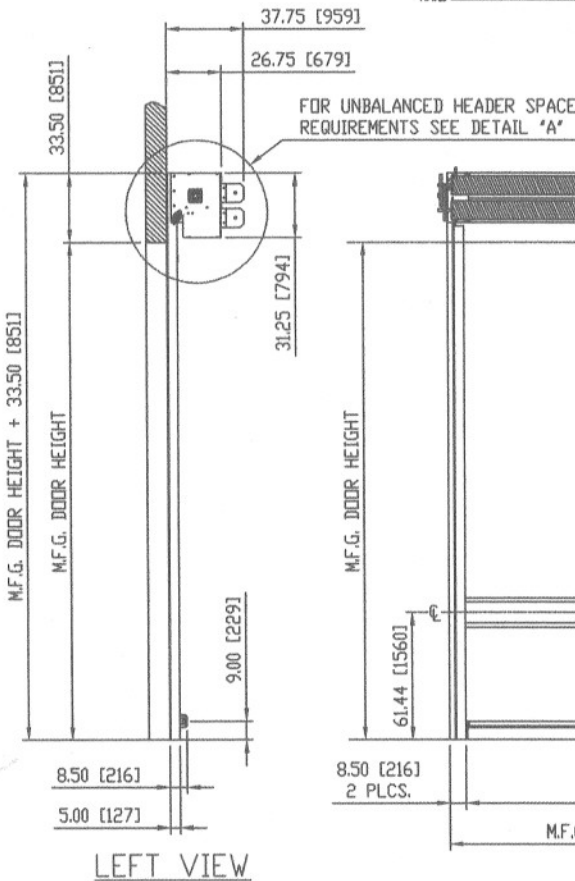
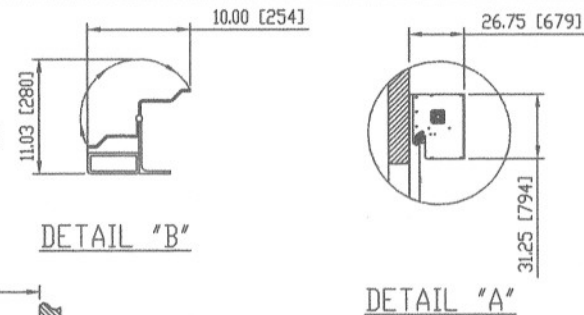
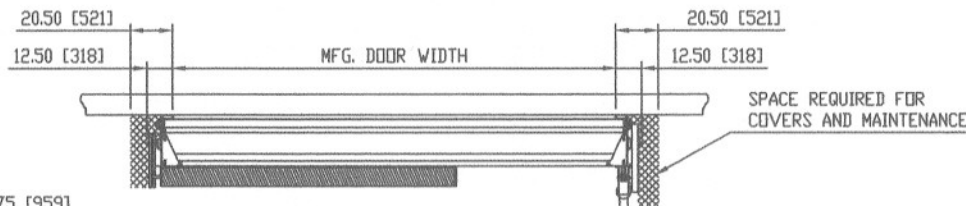
INSTALLATION

- A. Install door and operating equipment complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers and equipment supports in accordance with final shop drawings, manufacturer's product data and as specified herein.
 1. Secure guides to walls, plumb, level and true to line. Anchor guides at spacings indicated on approved shop drawings.
 2. Provide additional support as necessary for attachment of guides, brackets and door and operator mechanisms to interfacing surfaces.
- B. Connect and adjust electrical components and operating hardware.

RETAIN PARAGRAPH BELOW WHEN PAINTING OPTION IS CHOSEN.

- C. ****Touch-up paint on frame and other painted surfaces in accord with painting section.****
- D. Upon completion of installation, including work by other trades, lubricate, test and adjust doors to operate in accordance with manufacturer's product data. Final adjustments shall be made by manufacturer's authorized representative.
- E. Protect finished installations until Date of Substantial Completion. Repair damage to door panel, hardware and operators.

End of Section



SPECIFICATIONS & OPTIONS

OPENING SIZE	W=	H=
MFG. DOOR SIZE	W=	H=
OPERATOR LOCATION	RIGHT-HAND DRIVE	
	LEFT-HAND DRIVE	
OPERATOR SPEED	1 SPEED	
	2 SPEED	
CONTROL PANEL	ACS 50 (STD.)	
	PLC	
PRIMARY VOLTAGE (3 PHASE)	208 - 240 V	
	440 - 480 V	
	550 - 600 V	
DOOR ACTUATOR (Quantity)	PUSH BUTTON(s)	
	PULL SWITCH(s)	
	FLOOR LOOP RECEIVER	
	PHOTOCELL	
	MOTION DETECTOR(s)	
BALANCING	RADIO CONTROL	
	BALANCED	
	UN BALANCED	
SPRINGS	100 K CYCLES (STD.)	
	200 K CYCLES	
FABRIC	BLACK SBR. (STD.)	
	GRAY EPDM.	
	BLUE EPDM.	
WINDOWS 10"W X 18"H	QTY.	
	(QTY. DETERMINED BY MFG. DOOR WIDTH)	
Comments:		

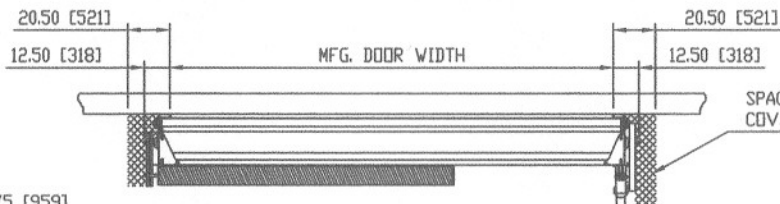
RE-COIL-AWAY OVER 12'-0" X 12'-0"



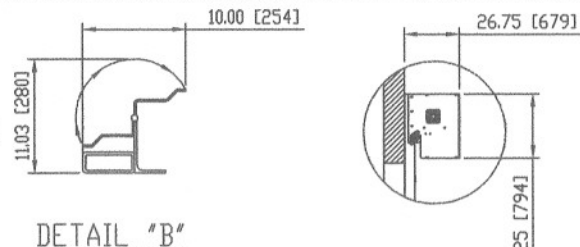
CUSTOMER	DRAWN BY	J.R.
LOCATION	DATE	5/03
DEALER/SALESMAN	REVISION	D
DOOR #	REV. DATE	9/03
DRAWING NAME		RE-COIL-AWAY APPROVAL
DRAWING NUMBER		RCA-0001

APPROVED BY:

APPROVED WITH CHANGES AS NOTED BY:

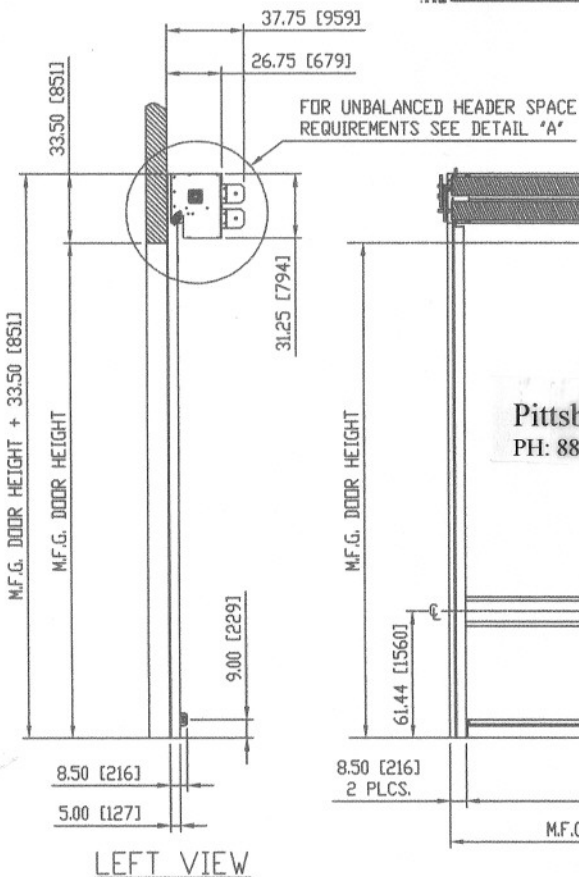


SPACE REQUIRED FOR
COVERS AND MAINTENANCE

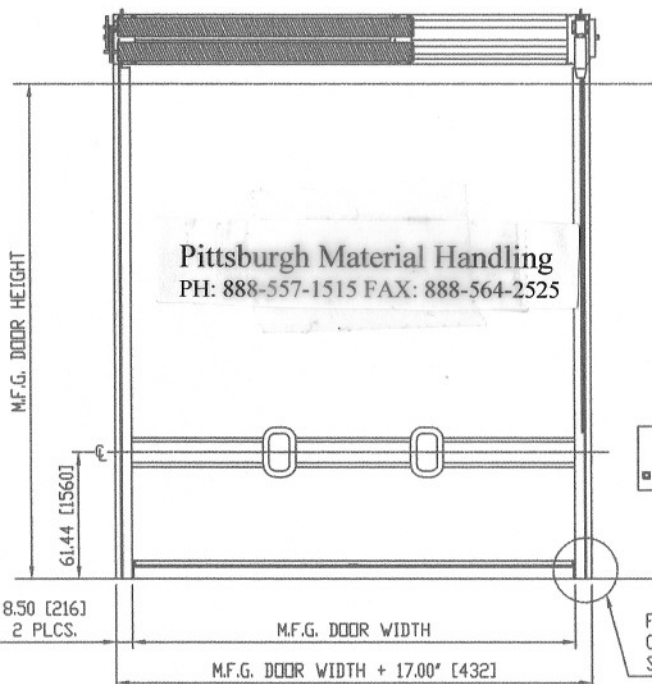


DETAIL "B"

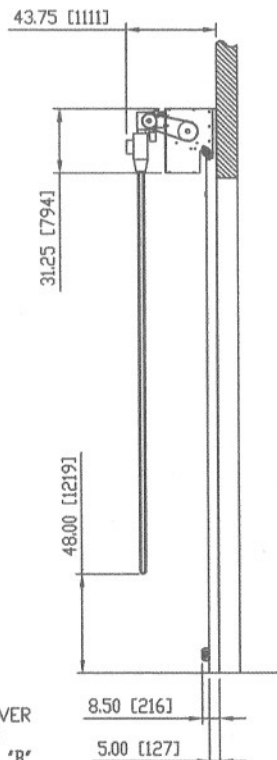
DETAIL "A"



LEFT VIEW



FRONT VIEW



RIGHT VIEW

SPECIFICATIONS & OPTIONS

OPENING SIZE	W=	H=
MFG. DOOR SIZE	W=	H=
OPERATOR LOCATION	RIGHT-HAND DRIVE	
	LEFT-HAND DRIVE	
OPERATOR SPEED	1 SPEED	
	2 SPEED	
CONTROL PANEL	ACS 50 (STD.)	
	PLC	
PRIMARY VOLTAGE (3 PHASE)	208 - 240 V	
	440 - 480 V	
	550 - 600 V	
DOOR ACTUATOR (Quantity)	PUSH BUTTON(s)	
	PULL SWITCH(s)	
	FLOOR LOOP RECEIVER	
	PHOTOCELL	
	MOTION DETECTOR(s)	
	RADIO CONTROL	
BALANCING	BALANCED	
	UN BALANCED	
SPRINGS	100 K CYCLES (STD.)	
	200 K CYCLES	
FABRIC	BLACK SBR. (STD.)	
	GRAY EPDM.	
	BLUE EPDM.	
WINDOWS 10"W X 18"H	QTY.	
	(QTY. DETERMINED BY MFG. DOOR WIDTH)	
Comments:		

RE-COIL-AWAY OVER 12'-0" X 12'-0"



CUSTOMER	DRAWN BY	J.R.	DRAWING NAME RE-COIL-AWAY APPROVAL DRAWING NUMBER RCA-0001
LOCATION	DATE	5/03	
DEALER/SALESMAN	REVISION	D	
DOOR #	DATE	REV. DATE 9/03	

APPROVED BY:

APPROVED WITH CHANGES AS NOTED BY: