

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 9902163

Insp Area: 1

Site Address: 1102 Q ST SAC

Parcel No: 006-0276-001

4TH,5TH,6TH FLOORS

Sub-Type: TI

Housing (Y/N): N

CONTRACTOR

OWNER

ARCHITECT

WATKINS RONALD E
2829 WATT AVE #200
SACRAMENTO CA

95821-6237

Nature of Work: OFFICE TENANT IMPROVEMENTS ON 4TH, 5TH, & 6TH FLOORS

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender's Address _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class _____ License Number _____ Date _____ Contractor Signature _____

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00):

____ I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

1 I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

____ I am exempt under Sec. _____ B & PC for this reason: _____

Date 3/23/10 Owner Signature [Signature]

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the above mentioned property for inspection purposes.

Date 3/23/10 Applicant/Agent Signature [Signature]

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

____ I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

1 I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier CAL Comp Policy Number L9812001737 Exp Date 11/1/99

____ (This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 3/23/10 Applicant Signature [Signature]

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

APPLICATION FOR XXXXXXXXXX BUILDING PERMIT

9902163 C 1C

DEVELOPMENT SERVICES DIVISION
PERMIT SERVICES SECTION

1231 I Street, Rm. 200
Sacramento, CA 95814 (916) 264-7619 FAX 264-7046

PLAN CHECK # _____ Insp. Area _____

Applicant **MUST** complete ALL Unshaded areas this page only

ADDRESS _____ Suite 4th, 5th & 6th floors
 PARCEL # 006 0276 001 thru 008 + 022

<p style="text-align: center;">CONTACT</p> <p>Name <u>Cynthia Easton</u> Address <u>4532 Freeway Blvd</u> Zip <u>95822</u> Phone <u>916 453 1505</u> FAX <u>916 453 0843</u></p>	<p style="text-align: center;">LICENSED CONTRACTOR Lic No. # <u>495151</u></p> <p>Name <u>The Watkins Co.</u> Address <u>2829 Watt Ave</u> Zip _____ Phone <u>916 488 0300</u> FAX <u>916 488 0344</u></p>
<p style="text-align: center;">ARCHITECT/ENGINEER</p> <p>Name _____ Address _____ Zip _____ Phone _____ FAX _____</p>	<p style="text-align: center;">OWNER</p> <p>Name <u>The Watkins Co. Sue Watkins</u> Address <u>2829 Watt Ave</u> Zip <u>95825</u> Phone <u>916 488 0300</u> FAX <u>488-0344</u></p>

→ Will the permittee have any employees on the jobsite? Yes No

→ If yes, WORKER'S COMPENSATION POLICY # L98B001737 EXPIRATION DATE: 11/1/99

NAME OF INSURANCE COMPANY: Salcomp

NATURE OF WORK IN DETAIL: Tenant Improvement 93,564 SF. on 3 floors @ 102 G St.

DBA: State Real Estate Services Div. VALUATION: \$ 1,403,490.00

FLOOD STATUS:				S.C.A.T. <input checked="" type="checkbox"/>						
JOB DESCRIPTION		BLDG	SHEL	APT	TI(A)	REM()	SW	FIRE	ADD	OTH
ENSP. DISCIPLINES		BLDG	MECH	PLUMB	ELEC	SITE		FIRE		
# Stories	1st flr Area	Total Area	Use Zone	Occp Group	Const type	Fire Req. <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Fed Code	Vio. File	
B	<u>L</u>	<u>P</u>	<u>M</u>	<u>E</u>	<u>II FR</u>	<input checked="" type="checkbox"/> Spr	<input type="checkbox"/> Alarm	<u>15</u>	<u>NO</u>	
	<u>J.T.</u>									

COMMENTS: _____

REGIONAL SANITATION FEES? Yes No HEALTH DEPARTMENT? Yes No



Insp. Area 2C

AUTHORIZATION TO START WORK

CITY OF SACRAMENTO, BUILDING INSPECTIONS DIVISION
1231 I ST., ROOM 200, SACRAMENTO, CA 95814

Company: THE WATKINS COMPANY
Address: 2829 WATT AVE #200
Job Phone: 488-0300 Office Ph. 488-0300

PC # 99-02163C
Bid App. (B1)
Fee 350.00

SUBJECT: Project Address: 1102 Q ST. SAC. CA. 95821 Suite # _____

I request permission to start the following work Rough Framing non structural interior, rough plumbing, electrical, mechanical work only. Do not cover anything up No sheetrock.

I realize that all work will be at the owner's and contractor's risk without assurance that the permit for the project will be granted. Any code conflicts will be corrected. I agree not to cover or conceal any work or portion thereof. I realize that inspections will not be made on this project until a building permit is issued. All changes required to conform to the approved plans will be completed without dispute. Work affecting the structural integrity of the existing building is not permitted.

I will expedite necessary revisions, corrections and clarifications as required to obtain the building permit.

If it should be determined subsequent to the issuance of this authorization that changes or alterations are necessary after commencement of the work authorized, I agree that the building shall conform to the approved final plans as amended, without regard to the stage of completion. **Building Inspection Division.**

This authorization is valid for 30 days while the plans are being processed for permit. These state required declarations must be properly executed before this authorization is valid. **Approval of State Law posted on job site at all times.**

CONSTRUCTION LENDING AGENCY

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ.C.)

Lender's Name _____
Lender's Address _____

LICENSED CONTRACTORS DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of the Business and Professions Code and my license is in full force and effect.

Lic. Class: D1 Lic. Number: 445151
[Signature] SIGNATURE THE WATKINS COMPANY COMPANY NAME
3/10/99 DATE

COPIES 2 SIDED

PLEASE COMPLETE BACK OF THIS FORM

CUSTOMER SUPERVISORS (3) BUILDING INSPECTORS ORIGINAL & RECEIPT IN FOLDER

CITY OF SACRAMENTO
 BUILDING INSPECTION DIVISION
 APPLICATION FOR BUILDING PERMIT - HAZARDOUS MATERIAL SURVEY

As Required by Assembly Bill #3205 - A Building Permit Cannot be Approved Without This Completed Form

1. Business Name: STATE OF CALIFORNIA REAL ESTATE SERVICES DIV. Phone: 488-0300
 Site Address: 1102 Q STREET Suite: 4TH FTH 6TH
(Street) (Zip)
 Business Owner/Representative: THE WATKINS Company Phone: 488-0300
 Nature of Business: OFFICE
 Property Owner: WATKINS CO. Phone: _____
 Address: 2829 WATT AVE Suite: _____
(Street) (City) (State) (Zip)
SACRAMENTO CA 95821

2. Are you developing an undetermined tenant space? Yes ___ No Is this permit for a shell building? Yes ___ No

Notify lessee of the responsibility to coordinate with the Fire Department regarding the use and handling of hazardous materials.

3. Does/Will your business generate hazardous waste? Yes ___ No

4. Does/Will your business handle, store or transport any solid, liquid, or gaseous chemicals? Yes ___ No

CONSULT THE EPA CHEMICAL LIST LOCATED AT THE BUILDING DIVISION COUNTER FOR HAZARDOUS OR ACUTELY HAZARDOUS MATERIALS TO COMPLETE THE FOLLOWING QUESTIONS.

If you answered "YES" to questions #3 and/or #4 above, continue on to questions 5 - 8.

5. Do you handle, store, or transport 55 gallons, 500 pounds, or 200 cubic feet (at Standard Temperature or Pressure) of a product or formulation containing hazardous materials at any one time? Yes ___ No ___

6. Do you handle, store or transport any amount of acutely hazardous materials? Yes ___ No ___

7. Is/Will your business be located within 1,000 feet of a school? Yes ___ No ___

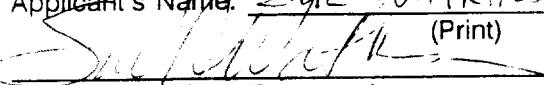
If you answered "yes" to questions #6 and/or #7, complete the RMPP Informational sheet.

8. Is/Will your business be located within 1,000 feet of a hospital, and/or long-term healthcare facility? Yes ___ No ___

IF YOU ANSWERED "YES" TO QUESTION #3 AND/OR #4, PLEASE CONTACT THE CITY OF SACRAMENTO FIRE DEPARTMENT LOCATED AT 1231 I STREET, SUITE 401, SACRAMENTO, CA OR CALL 449-5416.

Prior to issuance of a certificate of occupancy, each business owner(s) shall contact the City of Sacramento Fire Department and comply with the Health and Safety Code regarding the use and handling of hazardous materials.

PENALTY: Any business that violates Section 25531-25541 of the Health and Safety Code shall be civilly liable to the administering agency in an amount of not more than two thousand dollars (\$2,000) for each day in which the violation occurs. If the violation results in, or significantly contributes to, an emergency, including a fire, the business shall also be assessed the full cost of the city emergency response, as well as the cost of cleaning up and disposing of the hazardous materials. Additional liability and punishment may be assessed for knowing a violation after reasonable notice of the violation.

Applicant's Name: SYLIE WATKINS
(Print)

(Signature) (Date)

BID Use Only: Plan Ck# _____	Permit # <u>99-02163</u>
OK to issue prmt? <input checked="" type="checkbox"/> <u>3-23-99</u> F.D. Appr Req'd? Yes No	<small>init date</small>
Hold on Certificate of Occupancy? Yes No	
Fire Dept. Use Only:	
OK to issue permit? init _____ date _____	
OK to issue Certificate of Occupancy? init _____ date _____	

OWNER-BUILDER VERIFICATION

ATTENTION PROPERTY OWNER

An owner-builder building permit has been applied for in your name and bearing your signature.

Please complete and return this information in the envelope provided at your earliest opportunity to avoid unnecessary delay in processing and issuing your building permit. No building permit will be issued until this verification is received.

1. I personally plan to provide the major labor and materials for construction of the proposed improvement (yes or no) yes
2. I (have/have not) _____ signed an application for a building permit for the proposed work.
3. I have contracted with the following person (firm) to provide the proposed construction:

Name The Watkins Company Address 2829 Watt Ave #200
City Sacramento, CA 95821 Telephone 488-0300
Contractors License No. 493151

4. I plan to provide portions of the work, but I have hired the following person to coordinate, supervise, and provide the major work.

Name _____ Address _____
City _____ Telephone _____
Contractors License No. _____

5. I will provide some of the work but I have contracted (hired) the following to provide the work indicated:

Name	Address	Phone	Type of Work

Signed [Signature]
Job Address 1102 G Street Date 3/23/99
Permit No.: _____



2404 Professional Drive, Roseville CA 95661
TEL (916) 784-0777 FAX (916) 784-0707

OUR PERFORMANCE BUILDS RELATIONSHIPS®

TRANSMITTAL

Date: 3-9-99 Fax No.: _____ No. of Pages: 11
 Attention: GARTH Company: J.R. ROBERTS
 Re: 11th & Q STREETS

COPIES	DESCRIPTION
<u>1</u>	<u>VERTICAL FSD FRAMING DETAILS</u>
<u>1</u>	<u>VERTICAL FD FRAMING DETAILS</u>

For Approval Respond in Writing Be Advised Call

Copies To: _____

FRANK M. BOOTH DESIGN BUILD CO.

BY: CHRIS ESCAND

FMB 0002 1297 GM

NORMAN WRIGHT MECHANICAL EQUIPMENT CORP.

4901 WAREHOUSE WAY • SACRAMENTO, CA 95826 • (916) 381-6666 • FAX (916) 381-8057

FAX COMMUNICATION FORM

TO: Fm Booth Design Build DATE 3-9 TIME 11:00
ATTN: Chris

SUBJECT: _____

MESSAGE: Hi Chris, Phil wanted me to send
you the attached submittal and installation
sheet for a 12x12 Air Dampers he'll be
ordering, OK?
Thanks

FROM: Derek

Total pages including this sheet 7

Please send FAX reply

Please call us A.S.A.P.

IF YOU HAVE ANY PROBLEMS RECEIVING THIS TRANSMISSION, PLEASE CALL US AT (916) 381-6666 AS SOON AS POSSIBLE.

RUSKIN®

3900 Dr. Greaves Rd.

Grandview, MO 64030

(816) 761-7476

FAX (816) 765-8955

DIBD20, 40, 60 STYLE B CURTAIN TYPE DYNAMIC FIRE DAMPERS

1-1/2 HOUR RATING FOR USE IN DYNAMIC AND STATIC SYSTEMS

STANDARD CONSTRUCTION

UL 555 DYNAMIC RATING

Models: DIBD20, 40, 60

Vertical mount up to 39 sq.ft.

Minimum 2375 fpm at 4 in. w.g.

Horizontal mount up to 25 sq.ft.

Minimum 2520 fpm at 4 in. w.g.

Horizontal mount larger than 25 sq.ft.

Minimum 1290 fpm at 4 in. w.g.

Model: DIBD120, 40, 60

Vertical mount only

Up to 4580 fpm at 8 in. w.g.

Ratings are for in duct and in wall/floor installations with horizontal air flow and vertical air flow, both up and down. Ratings are conservative. Actual performance ratings vary with damper size and type of installation. See the Ruskin Style B Dynamic Curtain Fire Damper Performance Supplement for detail of actual dynamic ratings.

UL 555 FIRE RATING

1-1/2 hour UL classified fire damper.

INTEGRAL SLEEVE FRAME

20 gage (.91) galvanized steel. Not air tight.

DIBD20—Length 12" (305)

DIBD40—Length 14" (356)

DIBD60—Length 16" (406)

BLADES

24 gage (.81) galvanized curtain type.

Blades cut off air stream or minimum air flow restriction.

FINISH

Mill

CLOSURE SPRINGS

301 stainless steel constant force type.

FUSIBLE LINK

165°F (74°C) is standard.

212°F (100°C) and 285°F (141°C) available.

MOUNTING

Vertical or Horizontal.

MINIMUM SIZE

Vertical or Horizontal Installation

6" w x 4" h (152 x 102)

MAXIMUM SIZE

Single section, Vertical or Horizontal Installation

33" w x 32" h (838 x 813)

Multiple Section Assembly, Vertical Installation

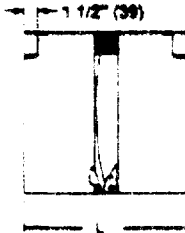
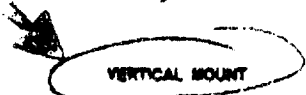
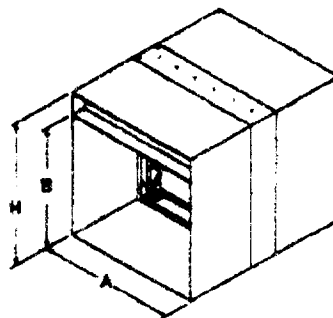
84" w x 66" h (2134 x 1727)

Multiple Section Assembly, Horizontal Installation

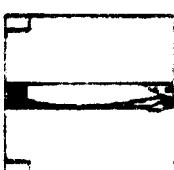
84" w x 78" h (2134 x 1930)

FEATURES

- Requires no additional sleeve. (See note 3) The integral sleeve ensures appropriate sleeve installation and allows delivery direct to the jobsite.
- Vertical and horizontal closure spring operation for assured closure under air flow (fans on) in HVAC systems.
- Each damper is marked with a 1-1/2 hour UL 555 classified fire damper label and the maximum air flow and static pressure limits.
- Meets all UL and NFPA criteria for primary fire dampers installed in walls and floors with fire resistance ratings of less than 3 hours.
- Meets the requirements for the UBC, BOCA, SBCC, and associated building codes.
- California State Fire Marshal Listed 3225-245-005 Vertical mount only.



HORIZONTAL MOUNT



VARIATIONS

All UL classified fire dampers must be fabricated in accordance with UL procedures. Available variations are limited to those incorporated in the approved procedures. Approved variations available at additional cost are:

- PFMA two piece picture frame mounting angles.
- Factory hem for S-and Drivemate duct sleeve connection.
- S-and Drivemate break-away drive cleets.
- Fully sealed sleeves

NOTES:

- Dimensions shown in parentheses () indicate millimeters.
- A and B dimensions are furnished approximately 1/4" (6) smaller than given duct dimensions.
- No additional sleeve is required when using UL approved break-away duct/sleeve connections. Refer to the Ruskin (D)IBD20, 40, 60 Installation Instructions and supplements for complete installation details.

QTY.	SIZE			FUSE LINK TEMP	MTG.		VARIATIONS
	A-WIDE	B-HIGH	H		V	H	
JOB	LOCATION						
CONTRACTOR							

ASSEMBLY, DIMENSIONAL AND PERFORMANCE INFORMATION

A and B dimensions are normally fabricated approximately 1/4" (6) less than given duct dimensions. A and B dimensions shown describe maximum UL Classified sizes. Ruskin recommends the authority having jurisdiction, the engineer and the contractor agree on the installation design prior to installation.

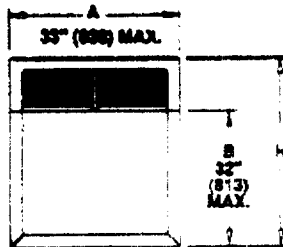
Dampers for openings larger than single section maximums shown are an assembly of equal sized single section dampers [maximum 33" x 72" (838 x 1829) overall individual section size for vertical installations and 30" x 45" (762 x 1143) overall individual section size for horizontal installations]. Example #1—84" x 32" (2134 x 813) vertical damper will consist of three 28" x 32" (711 x 813) sections. The maximum air flow velocity for this damper is 2365 fpm and maximum static pressure is 4 inches w.g. (see the Ruskin Style B Dynamic Fire Damper Performance Supplement). Example #2—60" x 45" (1524 x 1143) horizontal damper will consist of four 30" x 21" (762 x 533) sections. The maximum velocity for this damper is 3801 fpm for air flow up and 3762 fpm for air flow down with a maximum static pressure of 4 inches w.g. (see the Ruskin Style B Dynamic Fire Damper Performance Supplement).

Multiple section dampers are shipped in individual sections, for field assembly.

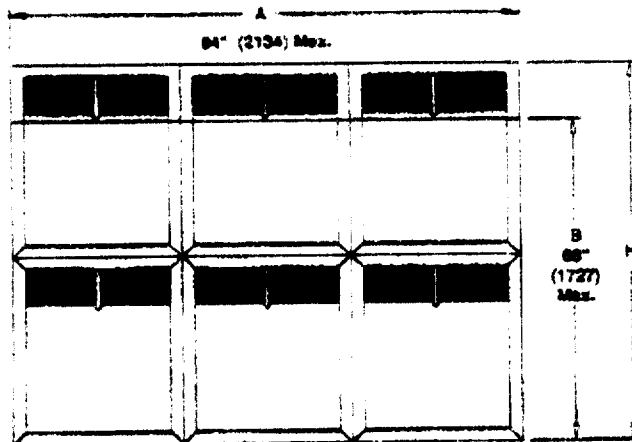
If Ductmate breakaway connection is used, order dampers actual size.

VERTICAL INSTALLATION (Elevation View)

Single Section Dampers



Multiple Section Dampers



B	Single Sections & Single High Assemblies	Double High Assemblies
	H	H
4 (102)	5 3/4 (146)	
5 (127)	6 3/4 (171)	
6 (152)	7 3/4 (197)	
7 (178)	8 3/4 (222)	
8 (203)	9 3/4 (248)	
9 (229)	10 3/4 (273)	
10 (254)	11 3/4 (299)	
11 (280)	12 3/4 (324)	
12 (305)	13 3/4 (350)	
13 (331)	14 3/4 (375)	
14 (356)	15 3/4 (401)	
15 (382)	16 3/4 (426)	
16 (407)	17 3/4 (452)	
17 (433)	18 3/4 (477)	
18 (458)	19 3/4 (503)	
19 (484)	20 3/4 (528)	
20 (509)	21 3/4 (554)	
21 (535)	22 3/4 (579)	
22 (560)	23 3/4 (605)	
23 (586)	24 3/4 (630)	
24 (611)	25 3/4 (656)	
25 (637)	26 3/4 (681)	
26 (662)	27 3/4 (707)	
27 (688)	28 3/4 (732)	
28 (713)	29 3/4 (758)	
29 (739)	30 3/4 (783)	
30 (764)	31 3/4 (809)	
31 (790)	32 3/4 (834)	
32 (815)	33 3/4 (860)	
33 (841)		35 3/4 (902)
34 (866)		36 3/4 (928)
35 (892)		37 3/4 (953)
36 (917)		38 3/4 (979)
37 (943)		39 3/4 (1004)
38 (968)		40 3/4 (1030)
39 (994)		41 3/4 (1055)
40 (1019)		42 3/4 (1081)
41 (1045)		43 3/4 (1106)
42 (1070)		44 3/4 (1132)
43 (1096)		45 3/4 (1157)
44 (1121)		46 3/4 (1183)
45 (1147)		47 3/4 (1208)
46 (1172)		48 3/4 (1234)
47 (1198)		49 3/4 (1259)
48 (1223)		50 3/4 (1285)
49 (1249)		51 3/4 (1310)
50 (1274)		52 3/4 (1336)
51 (1300)		53 3/4 (1361)
52 (1325)		54 3/4 (1387)
53 (1351)		55 3/4 (1412)
54 (1376)		56 3/4 (1438)
55 (1402)		57 3/4 (1463)
56 (1427)		58 3/4 (1489)
57 (1453)		59 3/4 (1514)
58 (1478)		60 3/4 (1540)
59 (1504)		61 3/4 (1565)
60 (1529)		62 3/4 (1591)
61 (1555)		63 3/4 (1616)
62 (1580)		64 3/4 (1642)
63 (1606)		65 3/4 (1667)
64 (1631)		66 3/4 (1693)
65 (1657)		67 3/4 (1718)
66 (1682)		68 3/4 (1744)
67 (1708)		69 3/4 (1769)
68 (1733)		70 3/4 (1795)
69 (1759)		71 3/4 (1820)

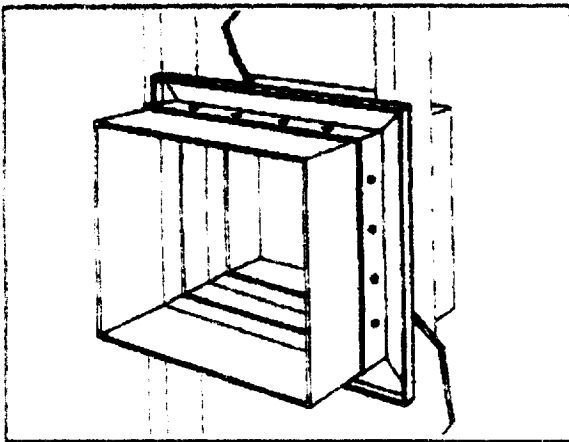
Note: Dimensions shown in parentheses () indicate millimeters.

SUGGESTED SPECIFICATION

Furnish and install, at locations shown on the plans, dynamic fire dampers constructed and tested in accordance with the current edition of UL-555 Standard For Fire Dampers. Dampers up to 48 sq. ft. for vertical mount and 25 sq. ft. for horizontal mount shall be classified for dynamic closure to a minimum 2375 fpm and 4 inches w.g. static pressure for horizontal air flow, air flow up and air flow down. Velocity and pressure ratings shall include both in duct and no duct installations.

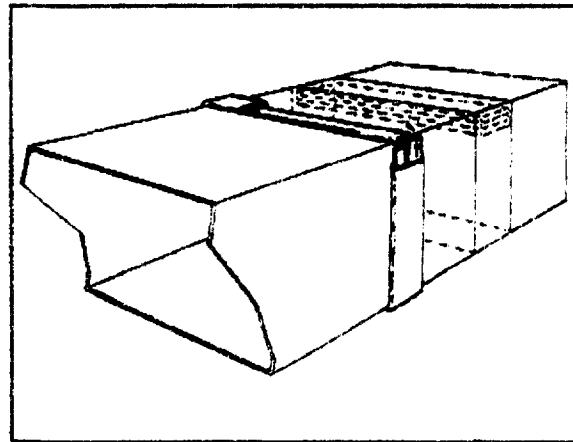
Each dynamic fire damper shall be marked with a UL classified 1-1/2 hour fire protection rating, the maximum velocity/pressure rating for each horizontal and vertical installation and "for use in dynamic systems." Dampers marked "for use in static systems only" are not permitted. In addition each dynamic fire damper shall include a (165°F or 212°F fusible link) (*specifier select*). Each dynamic fire damper shall include a (12, 14, 16) (*specifier select*) inch long integral roll formed steel sleeve and retaining angles furnished by the damper manufacturer to ensure appropriate installation. Submittal information shall include the fire protection rating, maximum velocity/pressure ratings and the manufacturer's UL installation instructions. Each fire damper shipment shall include the same UL installation instructions. The dampers shall be installed in accordance with these instructions. Dynamic fire dampers shall be Ruskin model (DIBD20, DIBD40, DIBD60) (*specifier select*).

LABOR SAVER ACCESSORY OPTIONS



PICTURE FRAME MOUNTING ANGLES

Use two piece mounting angles with prepunched fastener holes in lieu of conventional, eight piece mounting angles. Picture frame mounting angles are factory matched and shipped with each damper.



S-AND-DRIVEMATE BREAKAWAY CONNECTIONS

Use in lieu of S-Slip joints to join damper sleeve to ductwork for a strong connection that stays joined. Ruskin fire dampers with integral sleeves are available factory hemmed for S-and-Drivemate connections.

RUSKIN®

3800 Dr. Charles Rd.
Grandview, MO 64030
(816) 761-7478
FAX (816) 765-8855

RUSKIN®

3900 Dr. Greaves Rd.

• Kansas City, MO 64030

• (816) 781-7478

• FAX (816) 765-8955

INSTALLATION INSTRUCTIONS
1 1/2 HOUR UL CLASSIFIED
CURTAIN TYPE (D)IBD20, (D)IBD40, and (D)IBD60 FIRE DAMPERS
WITH INTEGRAL SLEEVES

APPLICATION

The (D)IBD20, (D)IBD40, and (D)IBD60 fire dampers include sleeves that are an integral part of the damper frame and are approved installation without the need for a supplemental, field-installed sleeve. Select the damper with sufficient length to permit attachment, with perimeter mounting angles, to ductwork to each side of wall or floor opening.

INSTALLATION SUPPLEMENTS

Refer to the appropriate Ruskin installation operation instructions supplements for special requirements:

- S-and-Drivemate No. 14880
- Ductmate
- Sealing of Dampers in Fire Rated Walls or Floors

MODELS IBD20, IBD40, and IBD60 MAXIMUM SIZE

Single Section

Vertical Installation - 48" w x 30" h or 33" w x 72" h (1219 x 762 or 838 x 1829).

Horizontal Installation - 33" w x 36" h or 30" w x 48 1/2" h (838 x 965 or 762 x 1156).

Multiple Section Assembly

Vertical Installation - 84" w x 72" h (2134 x 1829).

Horizontal Installation - 84" w x 84" h (2134 x 2134).

MODELS (D)IBD20, (D)IBD40, and (D)IBD60 MAXIMUM SIZE

Single Section

Vertical or Horizontal Installation - 33" w x 36" h (838 x 914).

Multiple Section Assembly

Vertical Installation - 84" w x 72" h (2134 x 1829).

Horizontal Installation - 84" w x 84" h (2134 x 2134).

These instructions comply with Underwriters Laboratories Safety Standard 586. UL File No. R8831.



SEE DETAILS ON
UL CLASSIFICATION
MARKING ON ENCLOSED
PRODUCT

Note:

Dimensions shown in parentheses () indicate millimeters.

IBD20-954/Replaces II-19000-394

ALL STATED SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE OR OBLIGATION.

California State Fire Marshal Listing No. 3225-248-005 (Vert. only)

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1. Expansion Clearance

Expansion clearance is required for all fire damper/sleeve assemblies. The opening in the wall or floor must be a minimum of 1/8" per foot (3 per 306) larger than the overall damper/sleeve assembly size for galvanized steel dampers and a minimum 3/16" per foot (5 per 306) for stainless steel dampers. The maximum opening size is 2" (51) larger than the minimum clearance dimensions above. Example: Opening for a 36" x 24" damper/sleeve assembly can be 38 3/4" x 24 1/4" minimum up to 39 1/4" x 26 1/4" maximum. All openings must be at least 1/8" (6) larger than the damper/sleeve assembly.

2. Fasteners and Multiple Section Assembly

Use No. 10 (M8) bolts or screws, 3/16" (5) rivets, tack welds or spot welds as depicted in figures 2 and 4 and spaced as follows when joining individual dampers to make multiple section damper assemblies or when fastening damper to the sleeve:

- Vertical Mount (in wall)
 - All dampers 6" (152) spacing
- Horizontal Mount (in floor)
 - All dampers 6" (152) spacing

Multiple section horizontal mount dampers require a 14 gage thick steel mullion plate sandwiched between the damper frames with 1/4" (13) long welds staggered intermittently and spaced on maximum 6" (152) centers. The mullion plate must be the same material as the dampers. The mullion length must be equal to the damper width of two or more adjoining damper sections. Mullions are not required for assemblies consisting of two dampers attached end-to-end or three dampers attached side-to-side as depicted in figure 5.

3. Damper Sleeve

Damper sleeve must be minimum 26 gage (.8) up to a maximum 10 gage (3.5) steel. Sleeve thickness must be equal to or thicker than the duct connected to it. Sleeve gage requirements are listed in the SMACNA Fire, Smoke and Radiation Damper Installation Guide For HVAC Systems and in NFPA90A. If a break-away style duct/sleeve connection is not used, sleeve must be 16 gage (1.6) minimum for dampers up to 36" wide or 24" height and 14 gage (2) minimum when damper exceeds 36" wide or 24" high. Sleeve must be fastened to damper as described in (note 2). Sleeve must not extend more than 6" (152) out of the wall or floor. Exception - Dampers equipped with factory installed access door may extend 16" (406) out of the wall or floor on the access door side. Sleeves must terminate on both sides of the wall or floor within the dimension shown in figures 1 and 3.

4. Damper Orientation

Damper must be installed with the blades within the wall or floor when they are in the closed position. Use "Air Flow" and "Mount With Arrow Up" labels on Dynamic DIBD and DIBDX models for proper damper orientation. For Static DIBD models use only "Mount With Arrow Up" label on damper for proper damper orientation.

5. Mounting Angles

Ruskin Picture Frame Mounting Angles can be used as shown in the supplemental installation instructions in lieu of the conventional mounting angles.

Galvanized dampers 50" x 60" or 60" x 50" (1270 x 1524 or 1524 x 1270) or smaller require minimum of 1 1/2" x 1 1/2" x 16 gage (38 x 38 x 1.6) conventional mounting angles fastened to the damper sleeve with No. 10 (M8) bolts or screws, 3/16" (5) rivets, tack welds or spot welds as depicted in figures 1 and 3, spaced a maximum of 6" (152) on center.

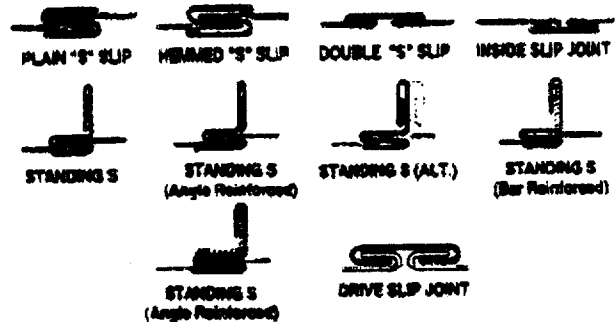
Larger dampers require minimum 1 1/2" x 1 1/2" x 14 gage (38 x 38 x 2) conventional mounting angles fastened to damper sleeve with No. 10 (M8) bolts or screws, 3/16" (5) rivets, tack welds or spot welds as depicted in figures 1 and 3 and spaced as follows:

- Galvanized steel dampers 12" (306) spacing
- Stainless steel dampers 6" (152) spacing

Mounting angles must overlap the wall or floor a minimum of 1" (25). Do not fasten angles together at corners of the damper/sleeve assembly.

6. Duct/Sleeve Connections
Break-away Duct/Sleeve Connections

Rectangular ducts must use one or more of the connections depicted below:



A maximum of two #10 sheet metal screws on each side and the bottom, located in the center of the slip pocket and penetrating both sides of the slip pocket may be used. Connections using these slip joints on the top and bottom with flat drive slips up to 20" (508) long on the sides may also be used.

Round and Oval Break-away Connections

Round and flat oval break-away connections must use either a 4" (102) wide drawband or #10 sheet metal screws spaced equally around the circumference of the duct as follows:

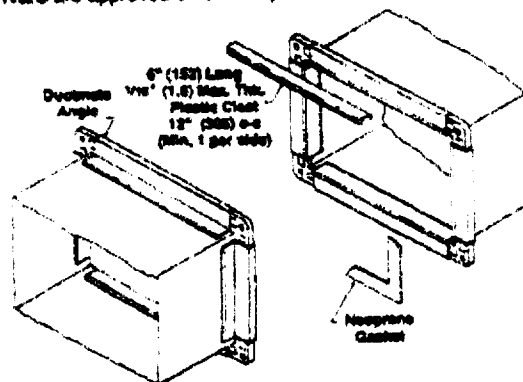
- Duct diameters 22" (559) and smaller - Maximum 3 screws.
- Duct diameters over 22" (559) and including 36" (914) - Maximum 5 screws.
- Duct diameters over 36" (914) and up to and including 191" (4851) total perimeter - Maximum 8 screws. For flat oval ducts, the diameter is considered the largest (major) dimension of the duct.

Note: When optional sealing of these joints is desired, the following sealants may be applied in accordance with the sealant manufacturer's instructions:

- Hardcast, Inc. - Iron Grip 601
- Precision - PA2084T

Flanged Break-away Style Duct Sleeve Connections.

Flanged connection systems manufactured by Ductmate, Nexus or Ward are approved break-away when installed as depicted.



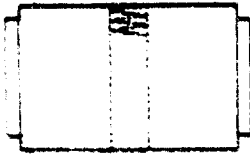
TDC (by Lockformer) and TDF (by Engle) flanged connections are approved break-away connections when installed as described in the TDC or TDF addendum to the SMACNA Duct Construction Standards except the corners may not be bolted. The standard 6" (152) metal clip may be used with spacing as depicted in the addendum.

Non-Break-away Duct/Sleeve Connections

If other duct/sleeve connections are used, the sleeve shall be a minimum of 16 gage (1.6) for dampers up to 36" (914) wide x 24" (610) high and 14 gage (2.0) for dampers exceeding 36" (914) wide x 24" (610) high.

FIGURE 1

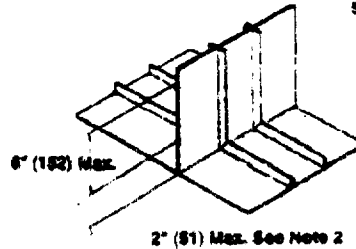
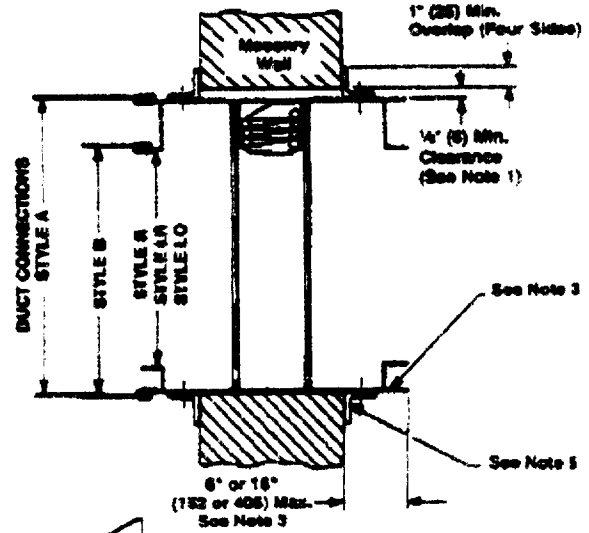
VERTICAL INSTALLATION



SLEEVE LENGTH

(D)-IBD230	12" (305)
(D)-IBD430	14" (354)
(D)-IBD630	16" (406)

FIGURE 2



HORIZONTAL INSTALLATION

FIGURE 3

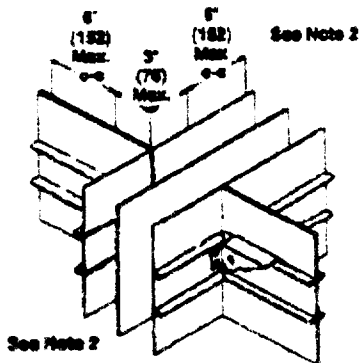
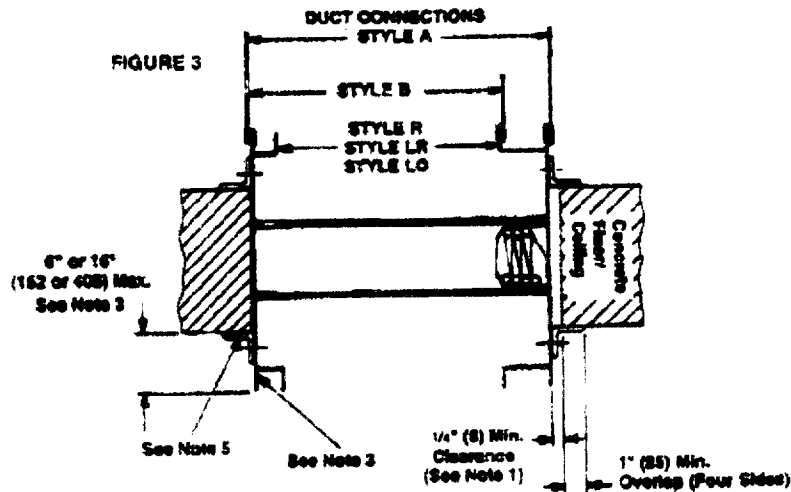
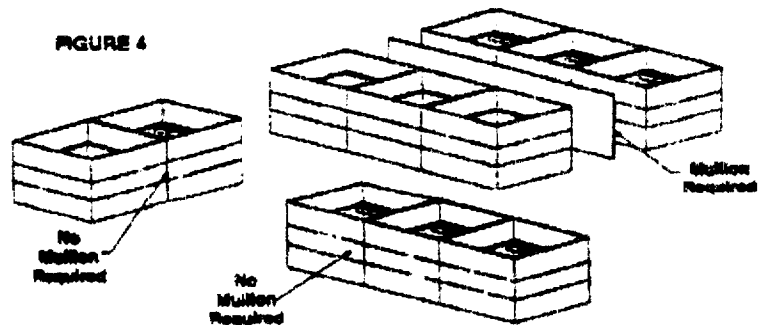


FIGURE 4



NORMAN WRIGHT MECHANICAL EQUIPMENT CORP.

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FAX COMMUNICATION FORM

TO: Fin Booth Design Build DATE 3.9.99 TIME 10:55
ATTN: Chris

SUBJECT: Installation Sheets for FSD's.

MESSAGE: See Attached.

FROM: Derek

Total pages including this sheet 6

Please send FAX reply

Please call us A.S.A.P.

IF YOU HAVE ANY PROBLEMS RECEIVING THIS TRANSMISSION, PLEASE CALL US AT (916) 381-6666 AS SOON AS POSSIBLE.

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Kansas City, MO 64030

(816) 761-7475

FAX (816) 765-8955

INSTALLATION INSTRUCTIONS

FSD60, FSD60-II, FSD60-V, FSD34, FSD35, FSD36, AND FSD37

COMBINATION FIRE AND LEAKAGE RATED MULTIPLE BLADE DAMPERS

1 1/2 HOUR UL CLASSIFIED RATING

APPLICATION

Models FSD60, FSD60-II, FSD60-V, FSD34, FSD35, FSD36 and FSD37 combination fire and leakage rated dampers are designed to operate with blades running horizontally (except FSD60-V) and must be installed with leading edge of closed blades within the wall. The FSD60, FSD60-II and FSD60-V are approved for out of the wall installation.

FSD60, FSD60-II MAXIMUM UL CLASSIFIED SIZES - PARALLEL BLADE

- Single section vertical and horizontal installation
30" w x 49" h (762 x 1245).
- Single section vertical out of the wall installation
30" w x 49" h (762 x 1245).
- Multiple section assembly vertical installation
90" w x 49" h or 31" w x 91" h (2286 x 1245 or 762 x 2311).
- Multiple section assembly horizontal installation
90" w x 49" h (2286 x 1245).

FSD60OB, FSD60-IIOB MAXIMUM UL CLASSIFIED SIZES - OPPOSED BLADE

- Single section vertical in or out of wall installation
32" w x 49" h (813 x 1245).
- Single section horizontal installation
30" w x 49" h (762 x 1245).
- Multiple section assembly vertical installation
120" w x 99" h (3048 x 2489).
- Multiple section assembly horizontal installation
90" w x 49" h (2286 x 1219).

FSD60OBV, (VERTICAL BLADES) MAXIMUM UL CLASSIFIED SIZES - OPPOSED BLADE

- Single section vertical in or out of wall installation
49" w x 32" h (1245 x 813).

FSD34, FSD35, FSD36, FSD37 MAXIMUM UL CLASSIFIED SIZES - PARALLEL BLADE

- Single section vertical or horizontal installation
36" w x 48" h (914 x 1219).
- Multiple section assembly vertical installation
90" w x 48" h or 36" w x 91" h (2286 x 1219 or 914 x 2311).
- Multiple section assembly horizontal installation
90" w x 48" h (2286 x 1219).

FSD34OB, FSD35OB, FSD37OB MAXIMUM UL CLASSIFIED SIZES - OPPOSED BLADE

- Single section vertical or horizontal installation
36" w x 48" h (914 x 1219).
- Multiple section assembly vertical installation
120" w x 96" h (3048 x 2438)**
- Multiple section assembly horizontal installation
90" w x 48" h (2286 x 1219).

FSD36OB MAXIMUM UL CLASSIFIED SIZES - OPPOSED BLADE

- Single section vertical installation
42" w x 61" h (1067 x 1549).
- Single section horizontal installation
36" w x 48" h (914 x 1219).
- Multiple section assembly vertical installation
126" w x 72" h (3200 x 3096)**
- Multiple section assembly horizontal installation
90" w x 48" h (2286 x 1219).

FSD36SB, FSD36SS, FSD36SS and FSD37SS MAXIMUM UL CLASSIFIED SIZES - OPPOSED BLADE

- Single section vertical installation
24" w x 24" h (610 x 610).

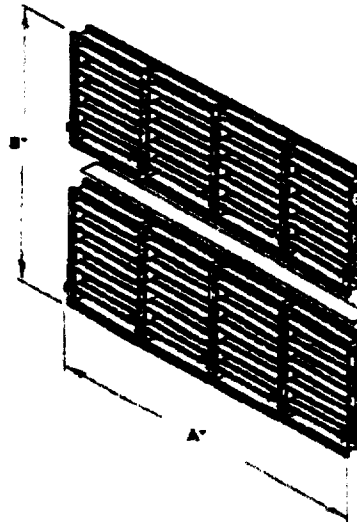
INSTALLATION SUPPLEMENTS

Refer to the appropriate Ruskin installation instructions supplements for special requirements:

- Metal Stud Framing for Fire Dampers in Drywall Partitions
- Wood Stud Framing for Fire Dampers in Drywall Partitions
- Transfer Openings and Duct Terminations
- Mullions for Dampers in Oversized Wall Openings
- S-and-Drivemate No. 14880
- Ductmate
- Optional Sealant of Dampers in Fire Rated Walls or Floors
- TS150 FireStat System with High Limit Temperature Sensor
- Electric ELF Controlled Closure Device
- Pneumatic PFL Controlled Closure Device
- Picture Frame Mounting Angles

MAXIMUM UL CLASSIFIED SIZE

FSD60OB, 60-IIOB, 37OB, 36OB, 35OB, 34OB



*A = 128" (3200) for FSD36OB
*A = 120" (3048) for FSD60OB, 60-IIOB, 37OB, 40OB, 60-IIOB

**B = 122" (3096) for FSD36OB
**B = 96" (2438) for FSD60OB, 60-IIOB
**B = 96" (2438) for FSD34OB, 35OB, 37OB

14 gage (2.0) x damper "A" dimension x 5" (127) wide reinforcing plate

**Two section high dampers require a 14 gage reinforcing plate unless overall height is less than 91" (2311); and width is less than 32" (813).

Notes:

1. Dimensions shown in parentheses () indicate millimeters.
2. All multiple section dampers are constructed of equal single section sizes no greater than the maximum single section sizes indicated above.

1. Expansion Clearance

Expansion clearance is required for all combination fire/smoke damper/sleeve assemblies. The fire wall opening shall be a minimum of 1/4" per foot (5 per 308) larger than the overall size of the damper/sleeve assembly. The maximum opening size shall not exceed 1/4" per foot (5 per 308) plus 2" (51), nor shall the opening be less than 1/4" (6) larger than any size damper/sleeve assembly. If damper is to be installed out of the wall the opening shall be 1/4" (13) larger than the overall size of the damper, floor trax and sleeve assembly.

2. Fasteners and Multiple Section Assembly

When joining multiple damper assemblies or fastening the damper to the sleeve, dampers shall be fastened with 1/4-20 (M5) bolts, number 10 (M5) screws, or 1/2" (13) long welds staggered intermittently on both sides. Space fasteners 6" (152) on center and a maximum 2" (51) from the ends of the joining sections or from each corner. When joining multiple damper assemblies, a continuous 1/4" (3) bead of Dow-Corning 998-A, Dow-Corning silastic 732 RTV, or GE RTV 108 sealant shall be applied on the mullion joint. Press the surface of the sealant in place to dispel any air. Another bead of the same sealant shall be applied between the damper and sleeve in the same manner. Only one side of the damper requires caulking. Note the sealant is not required when dampers are supplied for fire damper applications only and are not required to be leakage rated. Multiple section high vertical mount dampers include a 14 gage x 5" (2 x 127) wide steel mullion plate sandwiched between the damper frames where required. The mullion plate must be the same material as the dampers.

3. Damper Sleeve

Sleeve thickness must be equal to or thicker than the duct connected to it. Sleeve gage requirements are listed in the SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems and in NFPA90A. If a breakaway style duct/sleeve connection is not used, the sleeve shall be a minimum of 16 gage (1.6) for dampers up to 36" (914) wide by 24" (610) high and 14 gage (1.0) for dampers exceeding 36" (914) wide by 24" (610) high. Damper sleeve shall not extend more than 6" (152) beyond the fire wall or partition unless damper is equipped with an actuator and/or factory installed access door. Sleeve may extend up to 16" (406) beyond the fire wall or partition on sides equipped with actuator and/or factory installed access door. Sleeve shall terminate at both sides of wall within dimensions shown. If damper is to be installed out of the wall the sleeve shall have 12" (305) strips of 1/4" (6) fiber trax insulation on the top and both sides adhered to sleeve with rubber cement.

4. Damper Orientation

Damper is designed to operate with blades running horizontally and must be installed with leading edge of closed blades within the wall or floor when they are in the closed position (this does not apply to FSD60-V or if damper is to be installed out of wall). Use "Mount With Arrow Up" label as a guide for proper damper orientation. Horizontal mount dampers may be installed with actuator above or below the floor.

5. Mounting Angles

Ruskin's Picture Frame Mounting Angles are UL tested and may be used as shown in the supplemental installation instructions in lieu of the following conventional mounting angles:

Conventional mounting angles shall be a minimum of 1 1/2" x 1 1/2" x 16 gage (38 x 38 x 1.5) and fastened to the sleeve with No. 10 (M5) bolts or screws, 1/2" (13) long tack welds or 7/16" (5) diameter steel rivets. A minimum of two connections on each side, top and bottom of damper on both sides of wall are required. Space fasteners 8" (203) on center. Do not weld or fasten angles together at corners of damper. Angles must overlap wall a minimum of 1" (25). Only one angle is required on out of wall installation (see page 4).

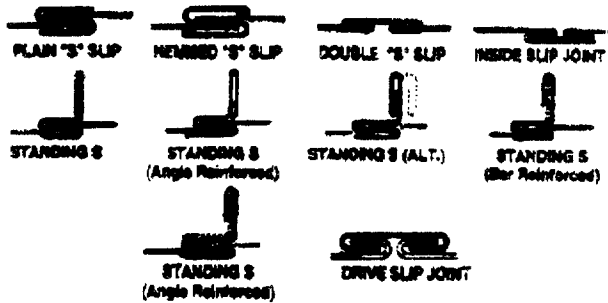
6. Actuators

The Damper may be supplied without the actuator installed. Qualified actuators (supplied by the damper manufacturer or others), shipped loose for field mounting, must bear a UL label affixed by the damper manufacturer. Contact Ruskin for actuator installation instructions for field mounting.

7. Duct/Sleeve Connections

Break-away Duct/Sleeve Connections

Rectangular ducts must use one or more of the connections depicted below:



A maximum of two #10 (M5) sheet metal screws on each side and the bottom, located in the center of the slip pocket and penetrating both sides of the slip pocket may be used. Connections using these slip joints on the top and bottom with flat drive slips up to 20" (508) long on the sides may also be used.

Round and Oval Break-away Connections

Round and flat oval break-away connections must use either a 4" (102) wide drawband or #10 (M5) sheet metal screws spaced equally around the circumference of the duct as follows:

- Duct diameters 22" (559) and smaller - maximum 3 screws.
- Duct diameters over 22" (559) and including 36" (914) - maximum 5 screws.
- Duct diameters over 36" (914) and up to and including 191" (4851) total perimeter - maximum 8 screws.

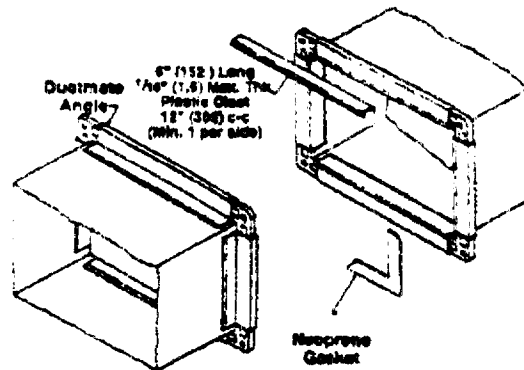
For flat oval ducts, the diameter is considered the largest (major) dimension of the duct. These connections are depicted in the SMACNA Fire, Smoke, and Radiation Damper Installation Guide.

Note: When optional sealing of these joints is desired, the following sealants may be applied in accordance with the sealant manufacturer's instructions:

- Hardcast, Inc. - Iron Grip 601
- Precision - PA2084T
- Eco Duct Seal 44-52

Flanged Break-away Style Duct/Sleeve Connections.

Flanged connection systems manufactured by Ductmate, Nexus or Ward are approved break-away when installed as depicted.



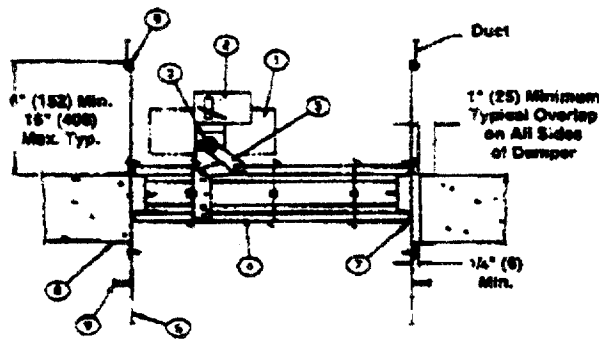
TDC and TDF and other roll-formed flanged connections installed per the flange manufacturer's breakaway instructions.

Non-Break-away Duct/Sleeve Connections

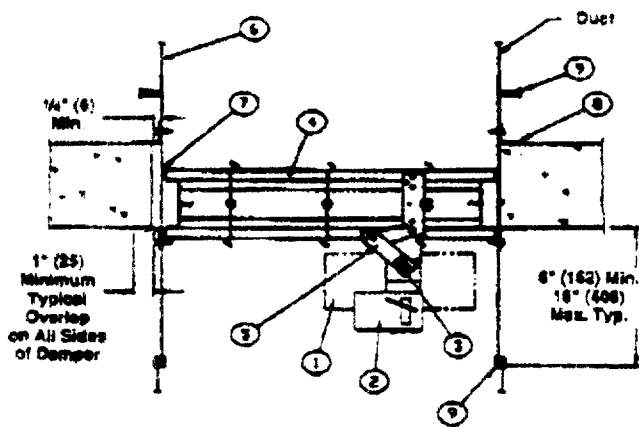
If other duct/sleeve connections are used, the sleeve shall be a minimum of 16 gage (1.6) for dampers up to 36" (914) wide x 24" (610) high and 14 gage (2.0) for dampers exceeding 36" (914) wide x 24" (610) high.

ITEM	DESCRIPTION
1.	Actuator (location may vary). Damper may be supplied without actuator installed. Fusion's UL listed Fire Damper Actuators may be field installed if properly labeled. See Actuator Installation Instructions for field mounting of damper actuators.
2.	Optional FireStat or SP-100.
3.	Auxiliary Operating Jackshaft
4.	Damper
5.	Over-Center Link
6.	Sleeve
7.	Caulking Material (may be on either side of damper frame).
8.	PFMA or conventional Mounting Angles
9.	S-Joint/Duct Mate, sleeve to duct connection.

HORIZONTAL INSTALLATION

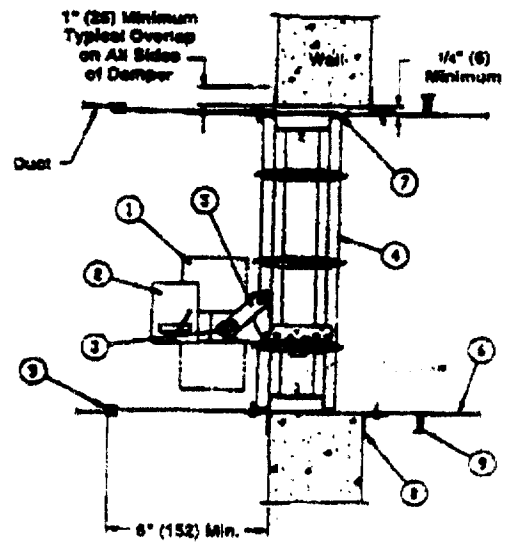


ACTUATOR ABOVE FLOOR



ACTUATOR BELOW FLOOR

VERTICAL INSTALLATION



TYPICAL AIRFOIL INSTALLATION

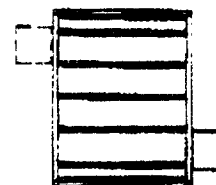
ORIENTATION

FSD60V Motor Locations



This actuator location requires non oil-immersed actuators only (MA220, 223, 226, NF120 and NF24).

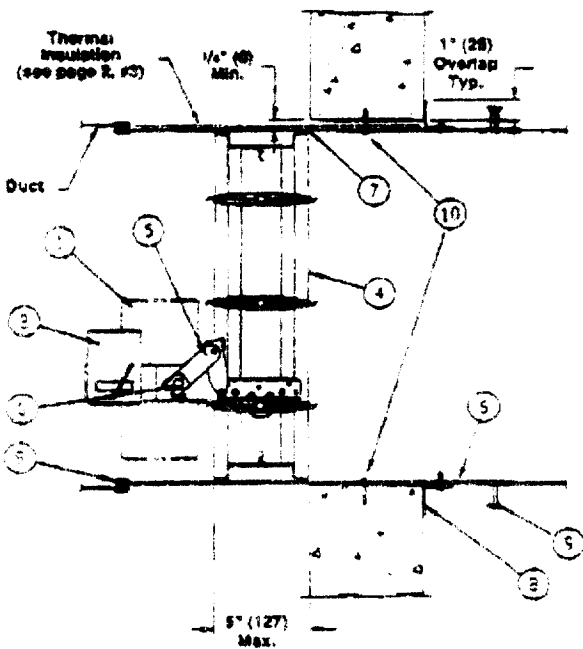
FSD60 Motor Location



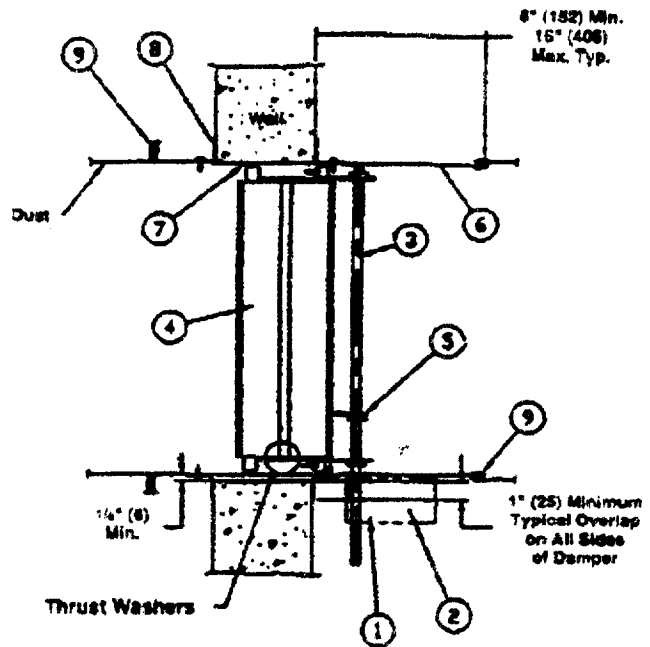
To ensure optimum operation and performance, the damper must be installed so that it is square and free from racking. Do not compress or stretch the damper frame into the duct or opening. Lift or handle the damper using sleeve or frame. Do not lift damper using blades or actuators.

- | ITEM | DESCRIPTION |
|------|--|
| 1 | Actuator (location may vary). Damper may be supplied without actuator installed. Ruskin's UL listed Fire Damper Actuators may be field installed if properly labeled. See Actuator Installation instructions for field mounting of damper actuators |
| 2 | Optional FireStat or SP-100. |
| 3 | Auxiliary Operating Jackshaft |
| 4 | Damper |
| 5 | Over-Center Link |
| 6 | Sleeve |
| 7 | Caulking Material (may be on either side of damper frame). |
| 8 | PFMA or conventional Mounting Angles |
| 9 | S-Joint/Duct Meta. sleeve to duct connection. |
| 10 | Fasteners - 12" c-to-c, minimum of 1 per side <ul style="list-style-type: none"> a. In metal stud walls or metal stud framing in drywall partition use minimum #10 screws b. In U-438 drywall construction use minimum #10 screws. c. In masonry wall construction use #10 self tapping concrete anchors. |

FSD60 OUT OF WALL INSTALLATION



FSD600BV VERTICAL INSTALLATION (only)



SEE DETAILS ON
UL CLASSIFICATION
MARKING ON ENCLOSED
PRODUCT

- California State Fire Marshal Listing No. 3225-245:005 FSD34.
- California State Fire Marshal Listing No. 3225-245:006 and 3220-245:108 for FSD35, 36.
- California State Fire Marshal Listing No. 3225-245:102 and 3230-245:110 for FSD60.
- New York City BSA No. 175-82-5M for FSD35, 36, 60.
- New York City MEA No. 384-83-M for FSD37.

Pneumatic actuators to be piped per the local codes.

Electric actuators to be wired per the National Electric Code (NEC) and local codes. See actuator for wiring diagrams.

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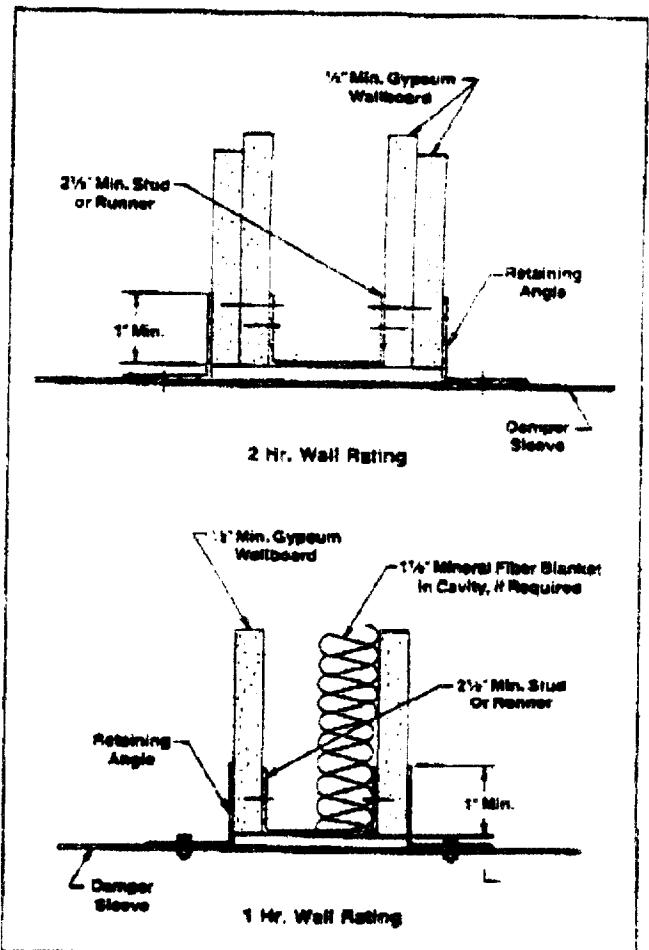
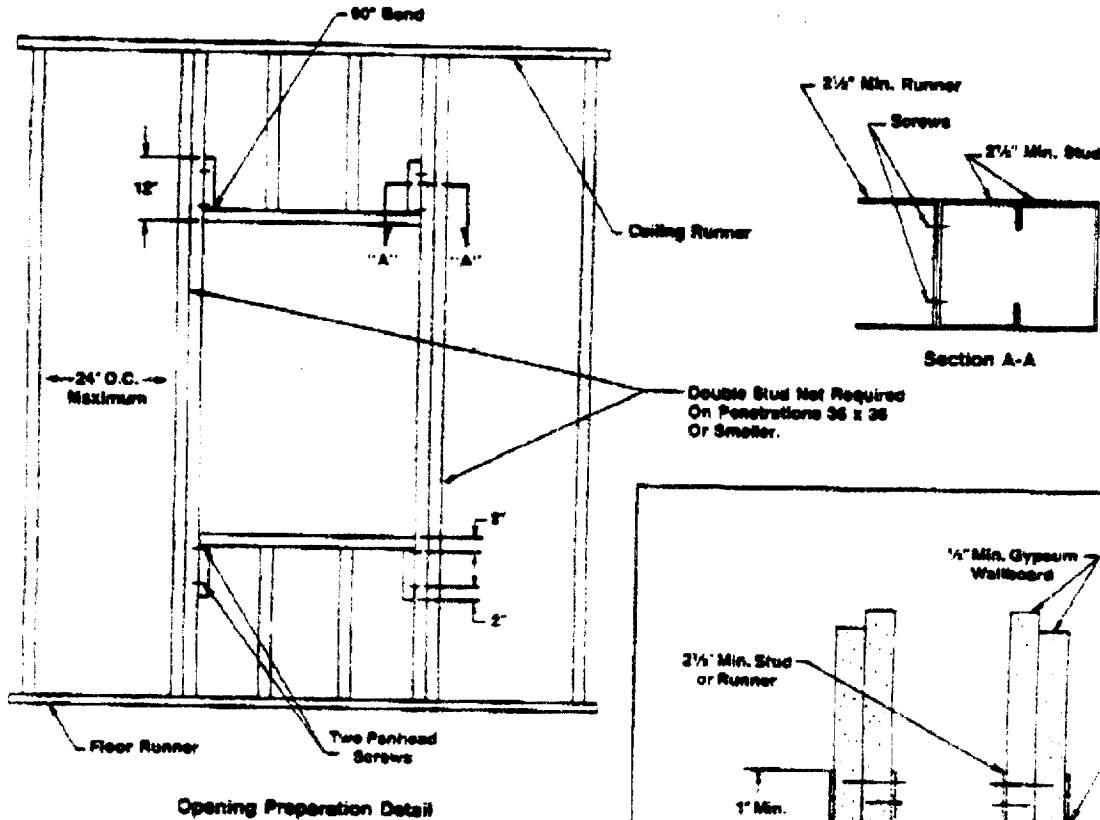
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Kansas City, MO 64030

METAL STUD FRAMING FOR FIRE DAMPERS IN DRYWALL PARTITIONS INSTALLATION INSTRUCTIONS SUPPLEMENT



NOTES

1. Gypsum panels must be screwed 12" O.C. maximum to all stud and runner flanges surrounding opening.
2. See standard installation instructions sheet for additional details.

These instructions comply with Underwriters Laboratories Safety Standard 555.

UL FILE NO. R8631
SEE DETAILS ON
UL CLASSIFICATION
MARKING ON ENCLOSED
PRODUCT



OUR PERFORMANCE BUILDS RELATIONSHIPS®

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TRANSMITTAL

Date: 3-9-99 Fax No.: _____ No. of Pages: 4
 Attention: GAYLOR Company: J.P. ROBERTS
 Re: _____

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For Approval Respond in Writing Be Advised Call

Copies To: _____
PHIL GAYLOR

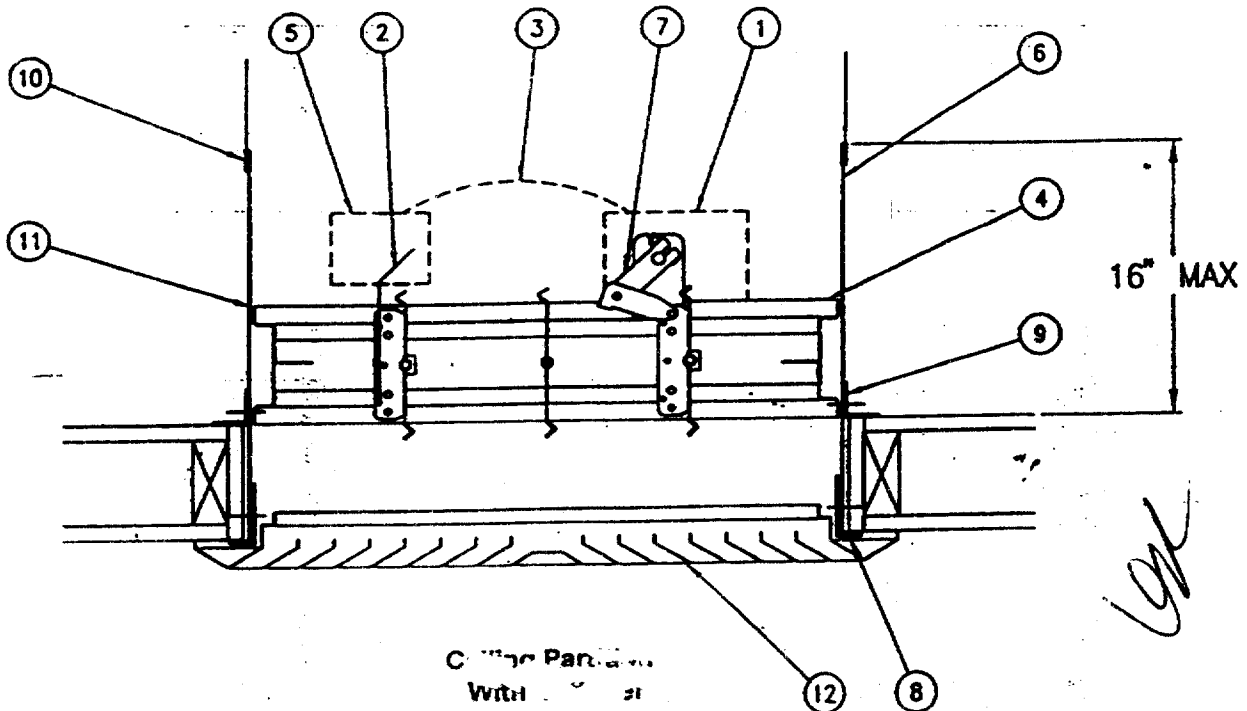
FRANK M. BOOTH DESIGN BUILD CO.

BY: CHRIS BERLAND

FMB 0002 12/97 GM

RUSKIN

3900 Dr. Greaves Rd. Kansas City, Mo. 64030 816-761-7476 FAX 816-765-8955



ITEM	DESCRIPTION
1.	Operator/Actuator (location may vary)
2.	Connecting Rod
3.	Flux Control
4.	Damper Frame
5.	TS150 or SLF200 (location may vary)
6.	Sleeve
7.	Over Center Link
8.	Mounting Angles, 1 x 2 1/2 x 16 gage
9.	Mounting Angles, 1 1/2 x 1 1/2 x 16 gage
10.	Joint, Sleeve to Duct - Break-away Connections
11.	Caulking Material
12.	Grille/Diffuser

APPLICATION

Model FSD36 is a corridor damper with a Fire Resistance and Leakage rating. These units are designed to operate in the ceiling penetrations of tunnel corridors as a fire/smoke damper and to fail Closed on loss of power.

To ensure optimum operation and performance the damper must be installed so that it is square and free from racking. Do not compress or stretch the damper frame into the duct or opening.

FSD36 Maximum UL Classified Size for the application
Single Section
24" w x 24" h (610mm x 610mm)

GENERAL INSTALLATION

The opening shall be a 1/4" (6) larger than the overall size of the damper and sleeve assembly.

For installation in Ceiling Partition with grille, register, or diffuser, mounting angles shall be 1 1/2" x 1 1/2" x 16 gage (38mm x 38mm x 1.5mm) and 1" x 2 1/2" x 16 gage (25mm x 64mm x 1.5mm) minimum, fastened with No. 10 (M5) bolts or screws, 3/16" (5mm) diameter steel rivets or 1/2" (13mm) long lack welds. Do not fasten or weld angles together at corners of dampers. Space fasteners 12" (203mm) maximum on center for 1 hour rated dampers.

These instructions comply with Underwriters Laboratories Safety Standards 555 and 555S. UL File No. R5531.



SEE DETAILS ON
UL CLASSIFICATION
MARKING ON ENCLOSED
PRODUCT

California State Fire Marshall Listing No. 3225-245:005 and 3225-245:102.

GENERAL INSTALLATION CONTINUED

For installation in Ceiling Partition with duct drop, mounting angles shall be 1 1/2" x 1 1/2" X 16 gage (38mm x 38mm x 1.5mm) minimum, and fastened as above. Duct drop may turn as required before termination at diffuser, but may not penetrate another rated partition.

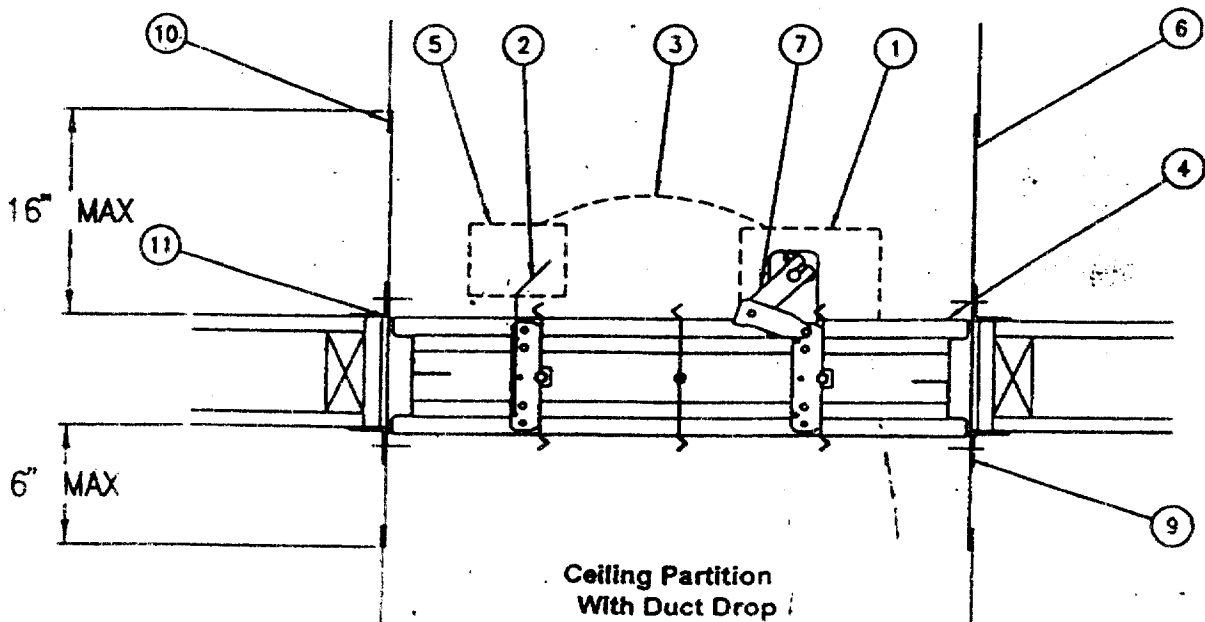
If sleeves are to be field supplied, they shall be 10 to 24 gage (3.4mm to .6mm) steel. The final sleeve assembly shall have inner dimensions equal to the damper's outer dimensions.

Damper sleeve shall not extend more than 6" (152mm) beyond the fire barrier unless damper is equipped with an actuator and/or factory installed access door. Sleeve may extend up to 16" (406mm) beyond the fire wall or partition on sides equipped with actuator and/or factory installed access door. Sleeve shall terminate at both sides of wall within dimensions shown.

When fastening the damper to the sleeve dampers shall be fastened with 1/4" - 20 (M6) bolts, No. 10 (M5) screws, or 1/2" (13mm) long welds staggered intermittently on both sides. Space fasteners 12" (304mm) on center and a maximum of 2" (51mm) from each corner.

A bead of Dow Corning 999, Dow Corning Silastic 732 RTV, or GE RTV 108 sealant shall be applied between the damper and sleeve. Press the surface of the sealant in place to dispel the air. Only one side of the damper requires caulking.

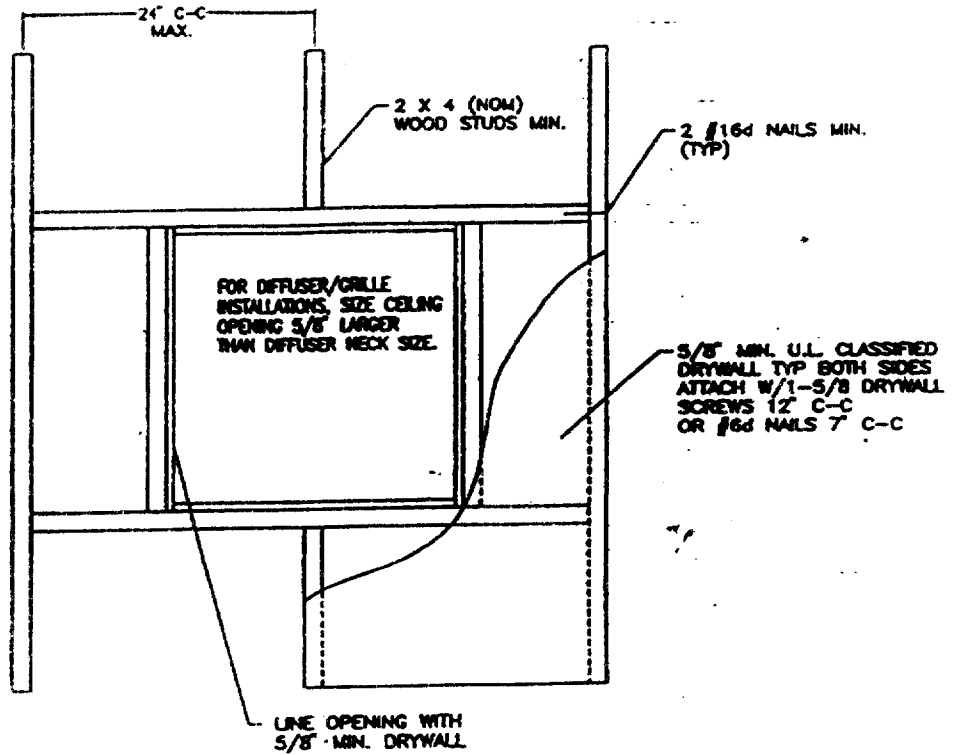
ITEM	DESCRIPTION
1.	Operator/Actuator (location may vary)
2.	Connecting Rod
3.	Flex Conduit
4.	Damper Frame
5.	TS180 or ELP200 (location may vary)
6.	Sleeve
7.	Over Center Link
8.	Mounting Angles, 1 x 2 1/2 x 16 gage
8.	Mounting Angles, 1 1/2 x 1 1/2 x 16 gage
10.	Joint, Sleeve to Duct - Break-away Connectors
11.	Caulking Material
12.	Grille/Diffuser



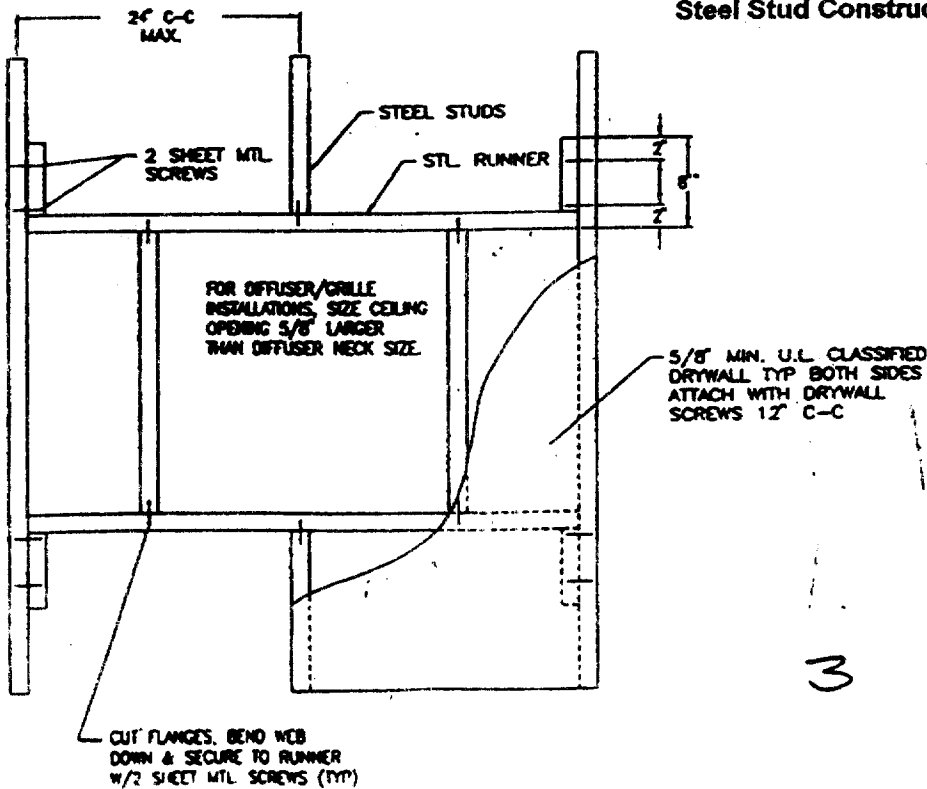
CEILING CONSTRUCTION DETAILS

The minimum ceiling partition construction will consist of single 2 x 4 wood studs (metal stud acceptable) on 24" (610mm) center to center. (Double wood studs are not required.) UL classified 5/8" (16mm) gypsum will be attached to the studs with 1 5/8" (41mm) drywall screws on 12" (305mm) centers or No. 6d nails on 7" (178mm) centers. (See drawings.)

Wood Stud Construction



Steel Stud Construction

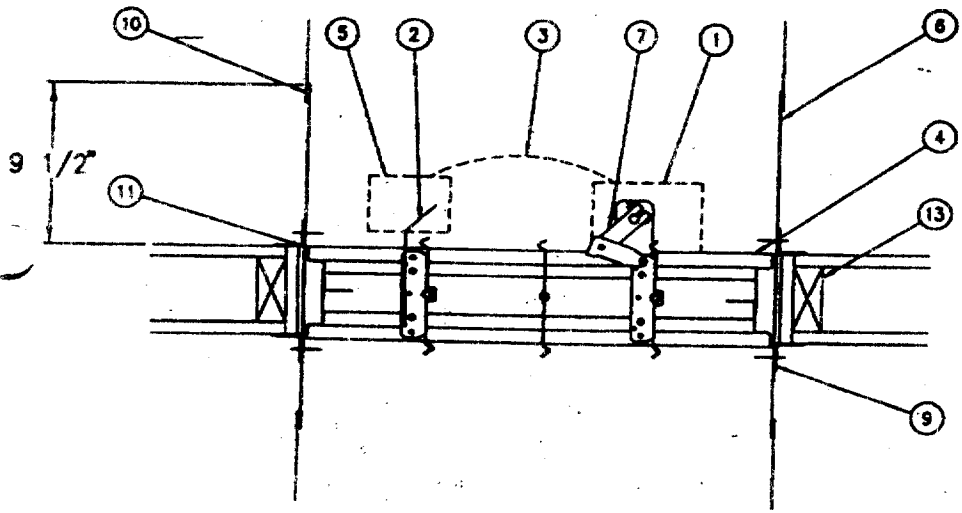


TYPICAL INSTALLATION

The FSD36-C series are corridor dampers with a one hour fire resistance per UL555 and Class II leakage rating per UL555S. These dampers are for use as a fire/smoke damper where air ducts penetrate or terminate at horizontal openings in the ceilings of interior corridors. The damper is to fail Closed on loss of power. These corridor dampers mount horizontally.

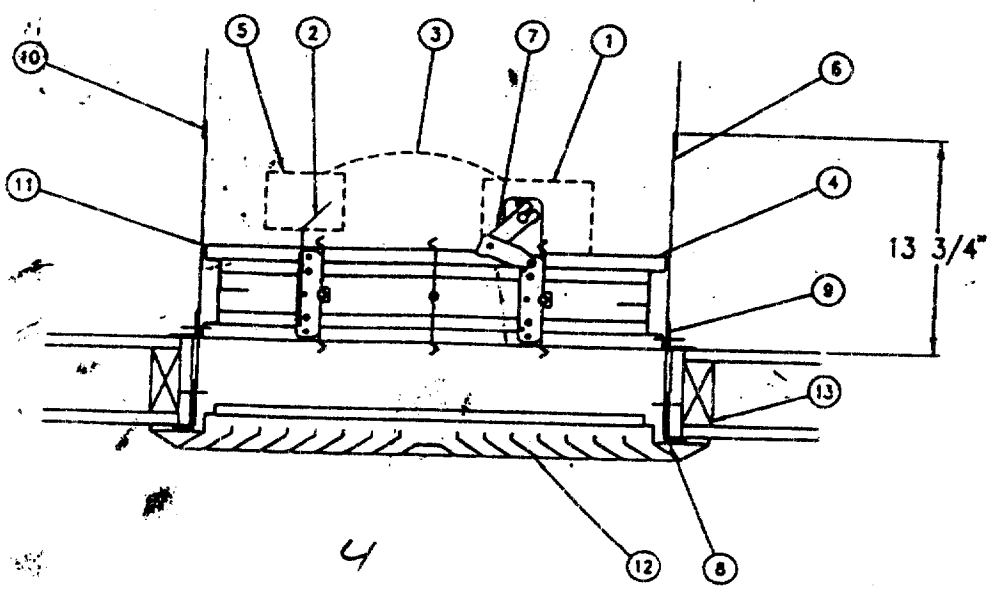
*See installations instruction sheet for details.

FSD36-C1 CORRIDOR DAMPER CEILING PARTITION WITH DUCTED INSTALLATION



- | ITEM | DESCRIPTION |
|------|---|
| 1. | Actuator (location may vary) |
| 2. | Connecting Rod |
| 3. | Flex Conduit |
| 4. | Damper Frame |
| 5. | TS150 Firestat, EFL200 or PFL200 (location may vary) |
| 6. | Sleeve (20 ga standard) |
| 7. | Over Center Link |
| 8. | Mounting Angles 1 x 2 1/2 x 16 gage |
| 9. | Mounting Angles 1 1/2 x 1 1/2 x 16 ga |
| 10. | Joint, Sleeve to Duct--
Break-away Connections |
| 11. | Caulking Material (meets 25/50 flame spread/smoke developed criteria) |
| 12. | Steel diffuser (by others) |
| 13. | Single stud construction |

FSD36-C2 CORRIDOR DAMPER CEILING PARTITION WITH STEEL DIFFUSER



RUSKIN®

3900 Dr. Greaves Rd.

Kansas City, MO 64030

(816) 761-7476

FAX (816) 765-8955

OPERATION INSTRUCTIONS MOTOR OPERATED EFL/SP100 SYSTEM WITH ADJUSTABLE LINK AND SWITCH PACKAGE SYSTEM FOR MULTIPLE BLADE FIRE DAMPERS

APPLICATION - CONTROLLED CLOSURE/INDICATION

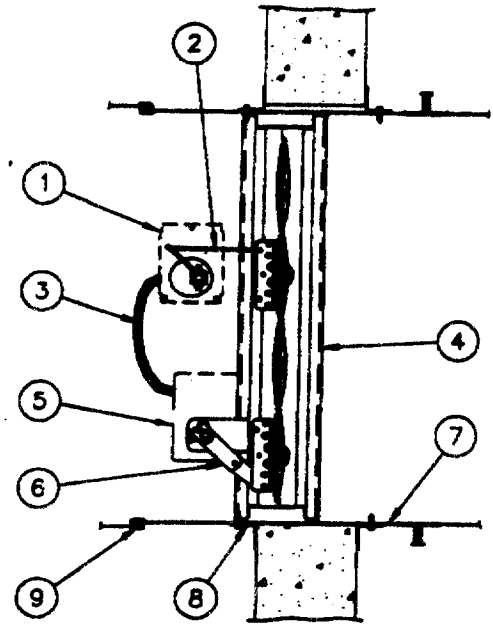
The EFL/SP100 system used in conjunction with a combination fire/smoke damper, closes and locks the damper when temperatures in excess of 165°F/74°C, 212°F/100°C or 285°F/141°C are detected. If the HVAC system is equipped with smoke detection, the damper will close and lock if a smoke signal is present. Once the smoke signal ceases, the system automatically resets and the damper opens. The SP100 allows for indication of damper position (indicator lights supplied by others).

OPERATION

Fire Conditions - When temperatures in excess of 165°F/74°C (212°F/100°C or 285°F/141°C optional) are detected, the damper will close and lock. Upon cessation of fire conditions the damper can be reopened by pressing the reset button located on the EFL/SP100 assembly. The SP100 will allow for indication of damper position during fire conditions.

Smoke Conditions - When smoke is detected (detector optional) the damper will close and lock until the smoke signal ceases. The system will then reset and the damper will open. The SP100 will allow for indication of damper position during smoke conditions.

- The damper may be closed at any time by placing the control switch (optional) in the CLOSED position.
- If the EFL/SP100 is tripped accidentally or during system testing, the EFL/SP100 must be reset by pressing the RESET button located on the EFL/SP100 assembly.
- Refer to the appropriate damper installation instructions for details on damper installation.



ITEM DESCRIPTION

1. EFL/SP100 System
2. Adjustable Connecting Rod
3. Flex Conduit
4. Damper Frame
5. Actuator

ITEM DESCRIPTION

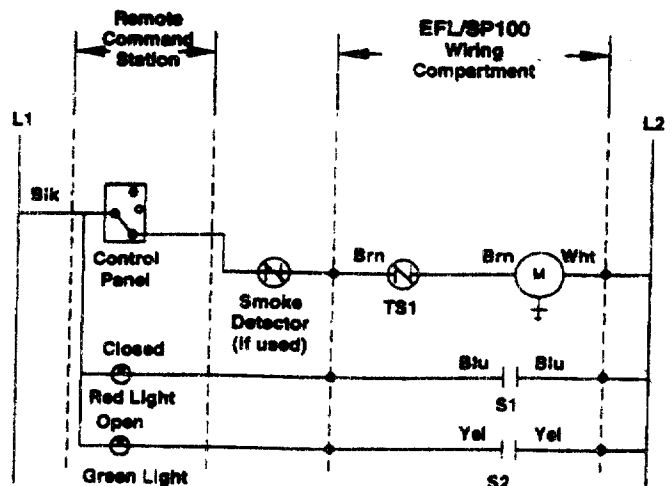
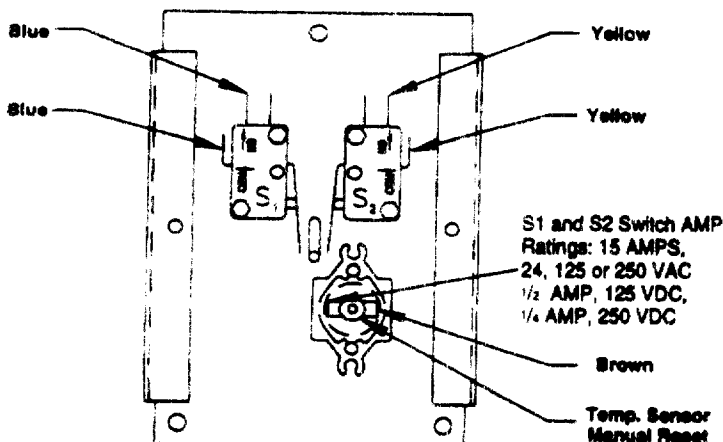
6. Overcenter Lock
7. Damper Sleeve
8. PFMA or conventional mounting angles
9. Sleeve to Duct Connection (by others)



SEE DETAILS ON
UL CLASSIFICATION
MARKING ON ENCLOSED
PRODUCT

Pneumatic actuators to be piped per local codes.

Electric actuators to be wired per the National Electric Code (NEC) and local codes. See actuator for wiring diagrams.



DESCRIPTION

- M - Electric Actuator or EP Switch
- TS1 - Temp. Sensor
- S1 - Position Indicator Switch (Closed)
- S2 - Position Indicator Switch (Open)

TABLE 11B-5—MAXIMUM REACH DEPTH FOR AUTOMATED TELLER MACHINES

REACH DEPTH (X) (Inches)	MAXIMUM HEIGHT (Y) (Inches)
x 25.4 for mm	
10	54
11	53.5
12	53
13	52.5
14	51.5
15	51
16	50.5
17	50
18	49.5
19	49
20	48.5
21	47.5
22	47
23	46.5
24	46

Note: See Figure 11B-5D (d).

4. **Forward and parallel approach.** If both a forward and parallel approach are possible, operable parts of controls shall be placed within at least one of the reach ranges in Item 2 or 3.

5. **Bins.** Where bins are provided for envelopes, waste paper, or other purposes, at least one of each type provided shall comply with the applicable reach ranges in Item 2, 3 or 4.

EXCEPTION: Where a function can be performed in a substantially equivalent manner by using an alternate control, only one of the controls needed to perform that function is required to comply with this section. If the controls are identified by tactile markings, such markings shall be provided on both controls.

1117B.7.4.2 Where two ATMs are provided. Where two ATMs are provided at a location, one shall comply with Section 1117B.7.4.1, except that the highest operable part shall be 48 inches (1219 mm) maximum. The second ATM is not regulated as to height, including height of display.

1117B.7.4.3 Where three or more ATMs are provided. Where three or more ATMs are provided, two shall be used to satisfy Section 1117B.7.4.2, above. For the additional ATMs beyond the first two, at least 50 percent shall comply with Section 1117B.7.4.1. The remainder are not regulated as to height, including height of display. If features provided differ from ATM to ATM, all features shall be equally represented among the accessible ATMs.

1117B.7.5 Display. LED, cathode ray, or other screen devices intended to be viewed by the user shall be positioned so they are readily visible to and usable by a person sitting in a wheelchair with approximate eye level of 45 inches (1143 mm), and shall comply with the following requirements:

NOTE: Automated teller machines allowed to be unregulated as to height in Sections 1117B.7.4 through 1117B.7.4.3 above are also exempt from this section.

1. **Vertically mounted screen devices.** If mounted vertically or tipped no more than 30 degrees away from the viewer, the center line of screens and other screen devices shall be located a maximum of 52 inches (1321 mm) above grade.

2. **Angle-mounted screen devices.** If mounted at an angle between 30 degrees and 60 degrees tipped away from the viewer, the center line of screens and other screen devices shall be located a maximum of 44 inches (1118 mm) above grade.

3. **Horizontally mounted screen devices.** If mounted at an angle between 60 degrees and 90 degrees tipped away from the viewer, the center line of screens and other screen devices shall be located a maximum of 34 inches (864 mm) above grade.

1117B.7.6 ATM equipment for persons with vision impairments. Instructions and all information for use shall be made accessible to and independently usable by persons with vision impairments.

SECTION 1118B — SPACE ALLOWANCE AND REACH RANGES

* **1118B.1 Wheelchair Passage Width.** The minimum clear width for single wheelchair passage shall be 32 inches (813 mm) at a point and 36 inches (914 mm) continuously. See Figure 11B-12.

1118B.2 Width for Wheelchair Passing. The minimum width for two wheelchairs to pass is 60 inches (1524 mm). See Figure 11B-12.

1118B.3 Wheelchair Turning Space. The space required for a wheelchair to make a 180 degree turn is a clear space of 60 inches (1524 mm) diameter [see Figure 11B-12 (a)] or a T-shaped space. See Figure 11B-12 (b).

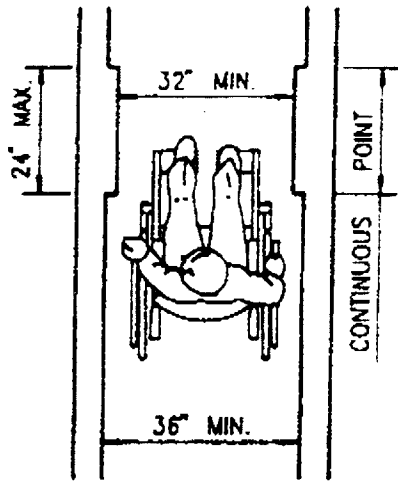
1118B.4 Clear Floor or Ground Space for Wheelchairs.

1. **Size and approach.** The minimum clear floor or ground space required to accommodate a single, stationary wheelchair and occupant is 30 inches by 48 inches (762 mm by 1219 mm). The minimum clear floor or ground space for wheelchairs may be positioned for forward or parallel approach to an object. Clear floor or ground space for wheelchairs may be part of the knee space required under some objects. See Figure 11B-5A.

2. **Relationship of maneuvering clearances to wheelchair spaces.** One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin or overlap an accessible route or adjoin another wheelchair clear floor space. If a clear floor space is located in an alcove or otherwise confined on all or a part of three sides, additional maneuvering clearances shall be provided as shown in Figure 11B-5A (b). See Figure 11B-5A.

1118B.5 Forward Reach. If the clear floor space allows only forward approach to an object, the maximum high forward reach allowed shall be 48 inches (1219 mm) [see Figure 11B-5C (b)].

FIGURE 11B-10
FIGURE 11B-12



* FIGURE 11B-10—MINIMUM CLEAR WIDTH FOR SINGLE WHEELCHAIR

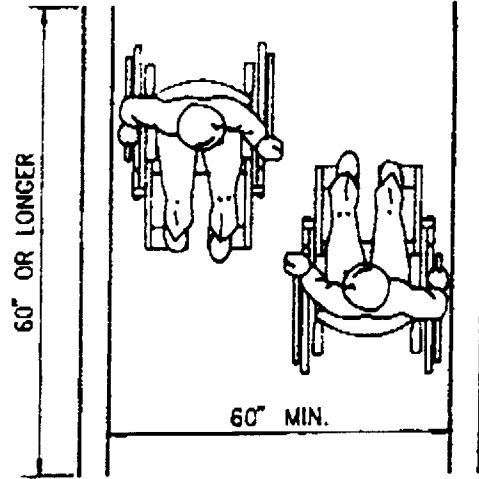
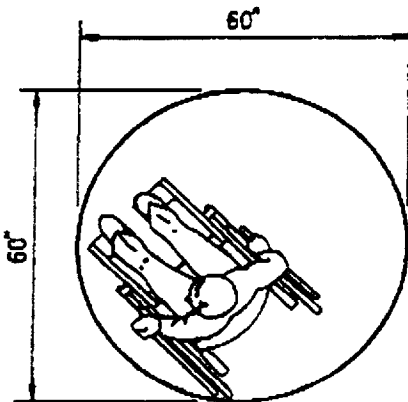
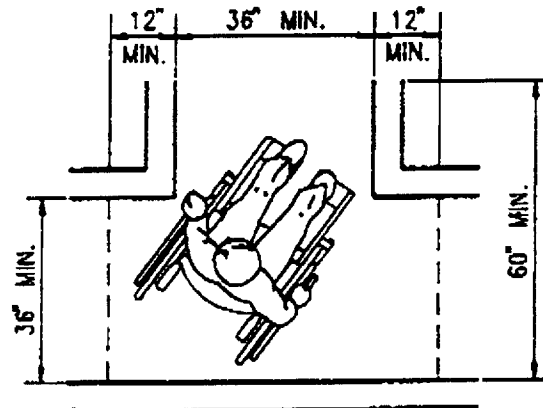


FIGURE 11B-11—MINIMUM CLEAR WIDTH FOR TWO WHEELCHAIRS



(a) 60 INCHES DIAMETER SPACE



(b) T-SHAPED SPACE FOR 180° TURNS

THESE DIAGRAMS ILLUSTRATE THE SPECIFIC REQUIREMENTS OF THESE REGULATIONS AND ARE INTENDED ONLY AS AN AID FOR BUILDING DESIGN AND CONSTRUCTION.

FIGURE 11B-12—WHEELCHAIR TURNING SPACE

MEMORANDUM

Sacramento Fire Department

To: BUILDING DEPARTMENT

Date: 7-1-99

From: Gordon Duncan,
Fire Marshal

Subject: **FIRE SYSTEM INSPECTION**

A final inspection of the newly installed fire system at:

1102 Q STREET

has been conducted by Inspector D. DEMELLO

on 6-29-99.

9902163 C
Permit Number

93,566 #
Square Footage

REMODEL
Type Inspection

The system is acceptable by this department.



By: Ross L. Woodman,
Fire Prevention Officer II

99-86
F. D. Reference Number