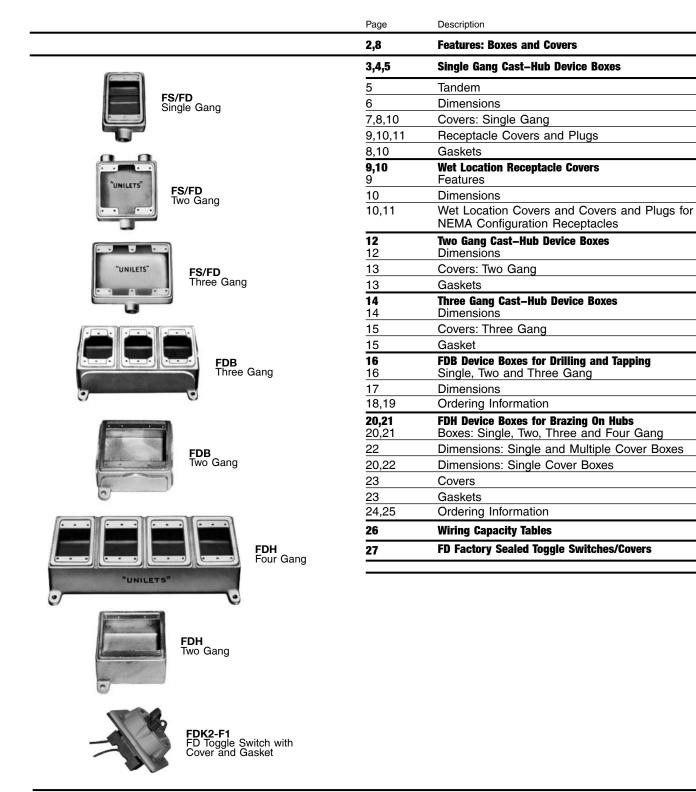
# FS and FD Cast Device Boxes





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# FS and FD Cast Device Boxes: **Malleable Iron, Aluminum**

UNILETS® for use with Threaded Rigid Conduit and IMC. All Device Boxes have Ridge Top Construction.

## **Applications**

- Accommodate wiring devices such as switches and receptacles.
- Provide excellent service in areas where boxes are subject to rough usage.
- Serve as pull boxes for conductors.
- · Permit access to conductors for maintenance.
- Provide openings for making splices.

• Allow connections for branch conduit runs.

• FS and FD blank bodies—for special conduit-entrance arrangements.

#### **Features: All FS and FD Boxes**

 Corrosion-resistant—ideal for indoor and outdoor installations.

• Weatherproof, raintight and dust-tight when used with cast gasketed covers.

• FS and FD boxes take standard flush wiring devices.

• FD boxes take devices exceeding 1-5/8" in depth under fastening ears.

• Malleable iron for high tensile strength and ductility-provides greater resistance to impact and shock.

• Both malleable iron and aluminum boxes have ridge top construction for positive cover/gasket/box fit.

• Accurately tapped, tapered threads for tight, rigid joints, ground continuity.

• Complete selection of covers, receptacles, plugs, gaskets and accessories.

• Covers have captive stainless steel screws to speed installation, prevents loss of screws.

Internal grounding screws standard.

## **Features: Cast Hub Boxes**

•Available in single, two and three gang and tandem.

• Smooth, rounded integral bushing in each hub protects conductor insulation.

#### Features: FDB Blank Bodies for Drilling and Tapping

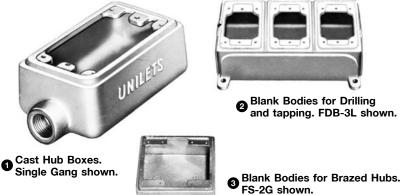
Available in single, two and three gang boxes.

• Drilling and tapping from 1/2" thru 1-1/2".

 Minimum engagement of 3-1/2 threads.

With mounting lugs.

• FDB-2GL and FDB-3GL can also be drilled and tapped in back of box (wall opposite cover).



## Features: FS & FD Blank

#### **Bodies for Brazed Hubs**

Ovailable in single, two, three and four gang boxes.

 Brazed threaded hubs for threaded conduit from 1/2" thru 1-1/2" and brazed union hubs from 1/2" thru 1-1/4.

• Smooth, rounded integral bushing in each hub protects conductor insulation.

## **Standard Materials**

• Cast Hub Device Boxes and Boxes for Drilling and Tapping: malleable iron or copper-free (4/10 of 1% max.) aluminum

Brazed Hubs: malleable iron.

• Covers: malleable iron, steel, or copper-free (4/10 of 1% max.) aluminum.

## **Standard Finishes**

• Malleable Iron Device Boxes: triplecoat-(1) zinc electroplate, (2) dichromate, and (3) epoxy powder coat.

 Aluminum Device Boxes: epoxy powder coat.



Gasket is designed so that it wraps around ridge top of Appleton aluminum or malleable iron device box. Result is a positive seal against moisture.

Appleton

• Malleable Iron Covers with Gaskets: triple-coat-(1) zinc electroplate, (2) dichromate, and (3) epoxy powder coat.

Steel Covers: zinc electroplate.

• Aluminum Covers: epoxy powder coat.

#### Compliances

UL Standard: 498 and 514A.

- U.S. Federal Specification W-C-586B.
- Appleton malleable iron products conform to ASTM A47-77, Grade 32510, which has the following properties: tensile strength, 50,000 psi; yield, 32,000 psi; and elongation, 10%.

 Appleton aluminum products are produced from a high strength copper-free (4/10 of 1% max.) alloy.

### **Reference Data**

• When ordering drilled and tapped openings or brazed hubs for blank bodies, refer to "Ordering Information" pages.



Gasket construction. Cover tightens on largest perimeter of gasket and fits snugly against portion of gasket that wraps around ridge top of box.

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# FS and FD Cast Device Boxes: Single Gang; Malleable Iron, Aluminum

UNILETS<sup>®</sup> for use with Threaded Rigid Metal Conduit and IMC. FS Box 2.00" Deep, FD Box 2.69" Deep. Furnished with Internal Ground Screw.

			Hub	Catalog I	
	Туре	Depth	Size (Inches)	Malleable Iron Ridge Top	Aluminum Ridge Top
	FS	Shallow	1/2	FS-1-50	FS-1-50-A
(			3/4	FS-1-75	FS-1-75-A
			1	FS-1-100	FS-1-100-A
"UNILETS"	FD	Deep	1/2	FD-1-50	FD-1-50-A
			3/4	FD-1-75	FD-1-75-A
	FSC	Shallow	1/2	FSC-1-50	FSC-1-50-A
			3/4	FSC-1-75	FSC-1-75-A
			1	FSC-1-100	FSC-1-100-A
"UNILETS"	FDC	Deep	1/2	FDC-1-50	FDC-1-50-A
			3/4	FDC-1-75	FDC-1-75-A
	FSS	<b>.</b>			
	гээ	Shallow	1/2	FSS-1-50	FSS-1-50-A
			3/4	FSS-1-75	FSS-1-75-A
UNILETS"	FDS	Deep	1/2	FDS-1-50	FDS-1-50-A
			3/4	FDS-1-75	FDS-1-75-A
			1	FDS-1-100	FDS-1-100-A
	FSLA	Shallow	1/2	FSLA-1-50	
"UNILETS"					



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# FS and FD Cast Device Boxes: Single Gang; Malleable Iron, Aluminum

UNILETS<sup>®</sup> for use with Threaded Rigid Metal Conduit and IMC. FS Box 2.00" Deep, FD Box 2.69" Deep. Furnished with Internal Ground Screw.

	Туре	Depth	Hub Size (Inches)	Catalog Number Malleable Iron Aluminum Ridge Top Ridge Top
	туре	Deptil	(inches)	Ridge Top Ridge Top
UNILETS"	FSCA	Shallow	1/2 3/4	FSCA-1-50 FSCA-1-75
	FSCC	Shallow	1/2 3/4	FSCC-1-50 FSCC-1-75
UNILETS"	FDCC	Deep	1/2 3/4 1	FDCC-1-50 FDCC-1-75 FDCC-1-75-A FDCC-1-100
UNI LETS"	FSCT	Shallow	1/2 3/4 1	FSCT-1-50 FSCT-1-75 FSCT-1-100
	FDCT	Deep	1/2 3/4 1	FDCT-1-50 FDCT-1-75 FDCT-1-100
	FST	Shallow	1/2 3/4	FST-1-50 FST-1-75
UNI	FDT	Deep	1/2 3/4 1	FDT-1-50 FDT-1-75 FDT-1-100
	FSX	Shallow	1/2 3/4	FSX-1-50 FSX-1-75
UNI	FDX	Deep	1/2 3/4 1	FDX-1-50 FDX-1-75 FDX-1-100
UNILETS"	FSCD	Shallow	1/2 3/4	FSCD-1-50 FSCD-1-75





# FS and FD Cast Device Boxes: Single Gang and Tandem; Malleable Iron

UNILETS<sup>®</sup> for use with Threaded Rigid Metal Conduit and IMC. FS Box 2.00" Deep, FD Box 2.69" Deep. Furnished with Internal Ground Screw.

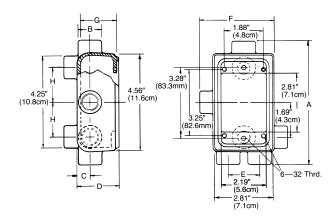
			Hub Size	Catalog Number Malleable Iron Aluminum		
	Туре	Depth	(Inches)	Ridge Top	Ridge Top	
	FS and FD Si	ingle Gang Boxes w	ith Mounting Lu	gs		
	FS	Shallow	1/2 3/4	FS-1-50L FS-1-75L		
	FD	Deep	1/2 3/4 1	FD-1-50L FD-1-75L FD-1-100	FD-1-50L-A FD-1-75L-A FD-1-100-A	
	FSC	Shallow	1/2 3/4	FSC-1-50L FSC-1-75L		
"UNICETS"	FDC	Deep	1/2 3/4 1	FDC-1-50L FDC-1-75L FDC-1-100	FDC-1-50L-A FDC-1-75L-A FDC-1-100-A	
	FS Single Ga	ng Boxes with Dout	ole Opening			
*UNILETS*	FS	3.38"	1/2 3/4	FS-1D-50 FS-1D-75		
*UNILETS*	FSC	3.38"	1/2 3/4	FSC-1D-50 FSC-1D-75		
	<b>FS Two-Gang</b> Take single g	g Tandem Boxes ang covers				
UNILETS"	FS	Shallow	1/2 3/4	FS-2T-50 FS-2T-75		
	FSC	Shallow	1/2 3/4	FSC-2T-50 FSC-2T-75		

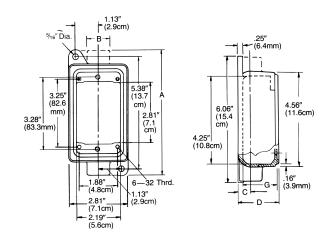


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# Dimensions: FS and FD Cast Device Boxes; Malleable Iron and Aluminum<sup>\*</sup> Single Gang and Tandem

FS and FD Single Gang Boxes without lugs. Dimensions in Inches and Centimeters

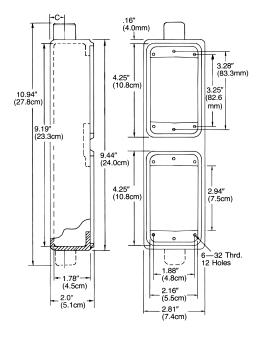




FS and FD Single Gang Boxes with lugs.

**Dimensions in Inches and Centimeters** 

FS Tandem Boxes. Dimensions in Inches and Centimeters



All cover and device screws 6-32 thread.

Hub D G										
Size (In.)	Α	В	С	"FS"	"FD"	Е	F	"FS"	"FD"	н
Dimensions in Inches										
1/2	5.88	1.13	.63	2.00	2.69	1.50	3.50	1.78	2.44	1.69
3/4	5.88	1.38	.75	2.00	2.69	2.06	3.50	1.78	2.44	1.50
1	6.31	1.69	.94	2.00	2.69	2.06	3.50	1.78	2.44	1.38

	Dimensions in Centimeters									
1/2	14.9	2.9	1.6	5.1	6.8	3.8	8.5	4.5	6.2	4.3
3/4	14.9	3.5	1.9	5.1	6.8	5.2	8.5	4.5	6.2	3.8
1	16.0	4.3	2.4	5.1	6.8	5.2	8.5	4.5	6.2	3.5

\*Aluminum FS Boxes have same dimensions as malleable iron FS boxes.

## Fraction/Decimal Equivalents (Inches)

Fraction	Decimal	Fraction	Decimal	Fraction	Decimal	Fraction	Decimal
1/16	0.06	5/16	0.31	9/16	0.56	13/16	0.81
1/8	0.13	3/8	0.38	5/8	0.63	7/8	0.88
3/16	0.19	7/16	0.44	11/16	0.69	15/16	0.94
1/4	0.25	1/2	0.50	3/4	0.75	1	1.00

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# **Stamped Covers for FS and FD Single Gang Device Boxes**

Steel Covers and Aluminum Covers for Ridge Top Boxes. Furnished with Stainless Steel Screws, Less Gasket. For Gaskets, see Page B-8.

		Catalog Number			
	Description	Steel	Aluminum		
	For double puch butter switches				
°On a	For double push button switches, momentary contact and				
0.4	maintain switches.	FSK-1PB			
		I SK-IF B			
	For square handle tumbler or toggle switches.	FSK-1TS	FSK-1TS-A		
( ···· )	loggie switches.	F3K-113	F3K-113-A		
	For square handle tumbler or				
	toggle switches. Has toggle guard.	FSK-1TSG			
°O. //					
	For two or three				
B11-200°	interchangeable devices.				
10	Includes mounting bracket.	FSK-1WD-3			
	For round flush receptacles, without				
°	lift cover. Mounts on device.				
-1	Hole Dia.—1-13/32"	FSK-1R-Q	FSK-1R-Q-A		
	For round flush receptacles, with				
0	lift cover. Mounts on device.				
	Hole Dia.—1-13/32"	FSK-1R-T			
in	For round receptacles.				
	Mounts directly on box.				
	Hole Dia.—1-13/32"	FSK-1R-W	FSK-1R-W-A		
	For round receptacles. Mounts directly				
	on box. Hole Dia.—1-5/8".				
	3-9/32" C to C screw holes	FSK-1R-X			
	For round receptacles. Mounts on				
-//	device. Hole Dia.—1-5/8".				
	2-3/8" C to C screw holes	FSK-1R-Y	FSK-1R-Y-A		
	For standard 2 or 3 wire				
01	duplex receptacles	FSK-1DR	FSK-1DR-A		
	For pilot lamp:				
	Red Jewel	FSK-1J			
· 0	Amber Jewel	FSK-1JA			
	Green Jewel	FSK-1JG			
	Opal Jewel	FSK-1JO			
	Blank	FSK-1B	FSK-1B-A		
	DIATIK	F3K-ID	FSK-ID-A		



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# **Cast Covers for FS and FD Single Gang Device Boxes**

Malleable Iron and Aluminum Covers for Ridge Top Boxes.

			Catalog N	
		Description	Malleable Iron	Aluminum
		Cast Covers NEMA 3R		
		Wet Locations		
Star Star		Furnished with gasket and		
e sta		stainless steel screws		
SK-1VR				
A		Receptacle cover with spring cover.		
21	. 91	Hole Dia.—1-7/16"	FSK-1VR	FSK-1VR-A
0	FOR AVER			
01	FSK-1VDR	For duplex flush receptacle		
SK-1J-C		with spring cover	FSK-1VDR	FSK-1VDR-A
SK-1J-C		E		
- 15	31	For pilot lamp flush receptacles:		
		Red Jewel Opal Jewel	FSK-1J-C FSK-1JOC	FSK-1-JCA FSK-1JOCA
A A A	FSK-1PBS	Amber Jewel	FSK-1JAC	FSK-1JOCA
	6	Green Jewel	FSK-1JGC	FSK-1JACA
SK-1VTS				
	1	For double push button switches	FSK-1PBS	
0.51	FSK-1VS	For external operation of tumbler		
No.		switches with square handles	FSK-1VTS	FSK-1VTS-A
SK-1V		·		
	11	Operating type for square handle		
	1	tumbler or toggle switches	FSK-1VS	FSK-1VS-A
FSK-1-B-C				
		Rocker type for square handle		
		tumbler or toggle flush switches	FSK-1V	FSK-1V-A
		Blank	FSK-1B-C	FSK-1B-CA
		Gasket (Replacement)		
$\sim$		Neoprene—for use with wet location		
FS-G	GKR-1N	covers above and receptacle covers		
		on pages B-10 and B-11.	FS-GKR-1N	FS-GKR-1N
		Cast Covers		
2 mars		Dry Locations		
FSK	-1DR-C	furnished with stainless steel		
		screws less gasket		
00		č		
FSK	-1R-Z	For standard 2 or 3 wire		
13		duplex receptacles	FSK-1DR-C	
CON DECK	-1TS-C			
FSK	-110-0	For round flush receptacles.		
S		Hole Dia.—1-7/16"	FSK-1R-Z	
FSK	-1TSG-C			
		For square handle toggle switches	FSK-1TS-C	
		For aquara bandla tagala avitabaa		
		For square handle toggle switches. Has toggle guard.	FSK-1TSG-C	FSK-1TSG-CA
		i ias ioggie guaru.	F3N-1130-0	F3K-1130-0A



# **B**—9

# NEMA 3R Wet Location Receptacle Covers for NEMA Configuration Receptacles

Available with NEMA Configuration Receptacles or as Covers Only. Covers also accommodate Toggle Switches.

## **Applications**

• Meet NEC 410-57(b) receptacle requirements for wet locations: "A receptacle installed outdoors where exposed to weather or in other wet locations shall be in a weatherproof enclosure, the integrity of which is not affected when the receptacle is in use (attachment plug cap inserted)."

• For industrial, commercial or residential use as a general purpose receptacle or for powering portable equipment not exceeding medium duty ratings.

• Mounts on FS or FD device boxes or equivalents, either single gang or multiple gang with single gang openings.

## **Features**

• Provides full protection in damp or wet locations per NEC 410-57. Gasketed spring door cover closes tightly automatically to protect receptacle from moisture and dirt when not in use. With plug inserted, a heavy-duty gasket in throat of receptacle seals around it to keep out moisture and dirt.

• Receptacle interiors comply with NEMA Standards WD-1 and WD-5.

• Receptacle interiors are specification grade, back and side-wired.

• Single cover units accommodate NEMA configuration receptacles for locking or non-locking blade plugs, or toggle switches. Duplex units accommodate one receptacle and one toggle switch or any combination of the two.

• Covers open all the way, permitting easy plug insertion and withdrawal. Also permits adequate access to cover screws for easy attachment of cover to FS, FD or other device box. Large head cover screws are captivated.

• Unique design of spring door hinge provides smooth action. Duplex units have a separate hinge shaft for each spring door cover to reduce stress on the shafts.

• Spring door cover puts pressure on plug (without tilting plug) to hold plug in best position for providing optimum weatherproof seal.

• Stainless steel hinge springs are completely enclosed—inside and out—for superior resistance against corrosion.





Single Cove on FS Box.

# Duplex Cover on FS Box.

• EPDM gaskets provide superior resistance to the weather, ozone and temperatures between -50°F and 260°F.

• Die-cast copper-free cover assemblies with epoxy powder coat (electrostatically applied for uniform coverage) to provide protection against corrosion.

• Positive ground path assured for all exposed metal parts.

• Receptacle interiors grounded through an extra contact in all types. Self-grounded in Duplex units.

#### **Standard Materials**

• Cover and Faceplate: die-cast copper-free (4/10 of 1%) aluminum.

• *Gaskets:* ethylene propylene rubber (EPDM).

- Cover screws: stainless steel.
- Hinge shaft: nylon.

• FSK-SBA Adapter: steel plate with closed cell sponged neoprene gasket.



Typical application with NEMA configuration receptacle and plug, mounted on an FS box. Gasket seals around plug, keeping out moisture and dirt. Spring door closes automatically when plug is withdrawn to protect receptacle.

### **Standard Finishes**

• Cover and Faceplate: epoxy powder coat.

• FSK-SBA Adapter: zinc electroplate.

## Compliances

- UL Standards 498 and 514A.
- U.S. Federal Specification W-C-586B.
- NEC 410-57.
- OSHA Standards, Sub-part "S".

• NEMA Standards WD-1 (straight blade) and WD-5 (locking type).

### References

• For FS/FD Boxes, see pages 3,4,5,16,20 and 21. For additional Receptacle Covers, see page 11.



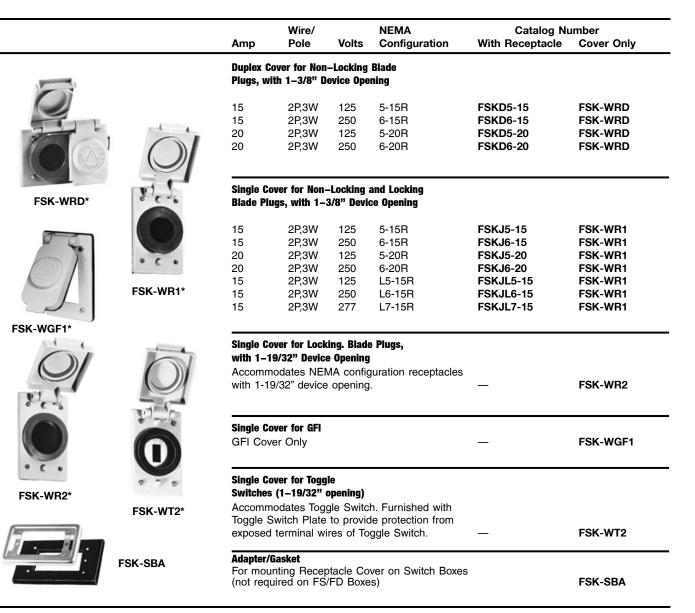
Spring doors open wide for easy plug insertion and cover assembly (covers shown in open position for illustration only). This view shows gaskets that protect plugs. Gasket on bottom of cover prevents entry of moisture into device box (see gasket description on page 2).



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# **NEMA 3R Wet Location Receptacle Covers** for NEMA Configuration Receptacles

Available with NEMA Configuration Receptacles or as Covers Only. Covers also accommodate Toggle Switches. Furnished with Stainless Steel Screws and Gasket.





**Receptacle Cover** mounted on Switch Box with FSK-SBA Adapter/Gasket

\*Covers shown in open position for illustration only. Spring door closes automatically when plug is withdrawn.

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2.81" (7.1cm)

1 88'

(4.8cm)

4.56

3 25

(8.3cm

(11.6cm)

Single

Duplex 2.81 (7.1cm) 1.88 3.16" (8.0cm) (4.8cn 3 25 (8.3cm) 4.56″ (11.6cm) NOTE: All receptacle covers have an

overall height of 1.16" (2.9cm).

PAGE 10

•••



# FS and FD Receptacle Covers and Plugs for Single Gang Device Boxes

NEMA 3R Wet Locations. Malleable Iron and Aluminum Covers for Ridge Top Boxes.

Receptacle Cover has threaded aluminum cap. Plug has neoprene boot and aluminum fastening ring. Furnished with receptacle, neoprene gasket, stainless steel screws.

	Receptacle	Plug	Pole/Wire	C Recep Malleable Iron		Plug
access and	<b>Non-Locking, "l</b> Receptacle tak	-		ding contact plug	gs.	
	15 Amp, 125V NEMA (0 5-15R	NEMA 5-15P	2P,3W	FSK5-15	FSK5-15-A	FSWP5-15
	20 Amp, 125V NEMA 5-20R	NEMA 5-20P	2P,3W	FSK5-20†	FSK5-20-A†	FSWP5-20
	<b>15 Amp, 250V</b> NEMA 6-15R	NEMA 6-15P	2P,3W	FSK6-15	FSK6-15-A	FSWP6-15
	20 Amp, 250V NEMA 6-20R	NEMA 6-20P	2P,3W	FSK6-20‡	FSK6-20-A‡	FSWP6-20
Also takes FSWP5-15 Plugs \$	SWP6-15 Plugs					
	Locking Groun	ding Type				
	15 Amp, 125V NEMA L5-15R	NEMA L5-15P	) 2P,3W	FSKL5-15		FSWPL5-15
	<b>15 Amp, 250V</b> NEMA L6-15R	NEMA L6-15P	) 2P,3W	FSKL6-15		FSWPL6-15
	<b>15 Amp, 277V</b> NEMA L7-15R	NEMA L7-15P	) <sub>2P,3W</sub>	FSKL7-15		FSWPL7-15
$\diamond$	Gasket (Replace Neoprene—for		ocation covers.		FS-GKR-1N	



# FS and FD Cast Device Boxes: Two Gang; Malleable Iron, Aluminum

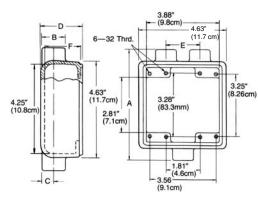
UNILETS<sup>®</sup> for use with Threaded Rigid Metal Conduit and IMC. FS Box 2.00" Deep, FD Box 2.69" Deep. Furnished with Internal Ground Screw.

			Hub Size	Catalog N Malleable Iron	
	Туре	Depth	(Inches)	Ridge Top	Ridge Top
	FS	Shallow	1/2	FS-2-50	FS-2-50-A
			3/4	FS-2-75	FS-2-75-A
"UNILETS"			1	FS-2-100	
	FD	Deep	1/2	FD-2-50	
		Deep	3/4	FD-2-30 FD-2-75	FD-2-75-A
			1	FD-2-100	1 <i>0-2-10-</i> A
	FSC	Shallow	1/2	FSC-2-50	
		Onaliow	3/4	FSC-2-75	
UNILETS"			1	FSC-2-100	
	FDC	Deep	1/2	FDC-2-50	
		Всер	3/4	FDC-2-75	FDC-2-75-A
			1	FDC-2-100	
0_0	FSS	Shallow	1/2	FSS-2-50	
		Chailon	3/4	FSS-2-75	FSS-2-75-A
"UNILETS"			1	FSS-2-100	
	FDS	Deep	3/4	FDS-2-75	
UNILETS	FSD	Shallow	1/2-3/4	FSD-2-75	

† Largest hub at bottom in illustration.

	FS	Extension	1.00"	FS-2EXT
cun sud	Extension does not have a ground screw.	Extension	1.00	13-2LAI

All cover and device screws 6-32 thread.



Hub	D							F		
Size (In.)	Α	В	С	"FS"	"FD"	E	"FS"	"FD"		
	М	alleable	Iron and	l Aluminu	m Dimen	sions (Inc	ches)			
1/2	5.88	1.13	.63	2.00	2.69	1.88	1.78	2.44		
3/4	5.88	1.38	.75	2.00	2.69	1.88	1.78	2.44		
1	6.31	1.69	.94	2.00	2.69	2.06	1.78	2.44		
	Malle	eable Iro	n and A	luminum l	Dimensio	ns (Centi	meters)			
1/2	14.9	2.9	1.6	5.1	6.8	4.8	4.5	6.2		
3/4	14.9	3.5	1.9	5.1	6.8	4.8	4.5	6.2		
1	16.0	4.3	2.4	5.1	6.8	5.2	4.5	6.2		





# Stamped and Cast Covers for Two Gang FS and FD Device Boxes

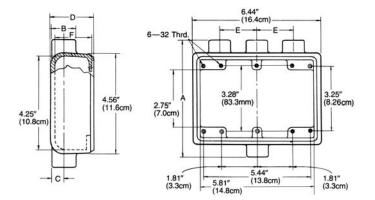
Steel, Aluminum and Malleable Iron Covers for Ridge Top Boxes.

	Description	Catalog Nu Steel	ımber Aluminum
	Stamped Steel and Aluminum Covers with stainless steel screws, less gasket.		
	For square handle tumbler or toggle flush switches	FSK-2TS	FSK-2TS-A
	For two round receptacles. Mounts on device. Hole Dia.—1-13/32"	FSK-2R-Q	
Contraction of the second seco	For two round receptacles. Mounts directly on box. Hole Dia.—1-13/32"	FSK-2R-W	
001	For round flush receptacles, with lift cover. Mounts on device. Hole Dia.—1-13/32"	FSK-2R-T	
E	For duplex flush receptacles	FSK-2DR	FSK-2DR-A
131	For tumbler flush switch and duplex flush receptacles	FSK-2RS-K	
.31	For round flush receptacle (Hole Dia.—1-13/32") and duplex receptacles	FSK-2R-L	
01 .1	For round receptacles. Hole Dia.—2-15/32	FSK-2R-M	
FSK-2R-M FSK-2B	Blank Cover	FSK-2B	FSK-2B-A
	Cast Covers—Weatherproof with gasket and stainless steel screws.	Catalog Malleable Iron	Number Aluminum
FSK-2VTS FSK-2B-CM and FSK-2B-C/	For external operation of tumbler switches with square handles	FSK-2VTS	FSK-2VTS-A
	Blank Cover	FSK-2B-CM	FSK-2B-CA
FS-GKR-2N	Gasket (Replacement) Neoprene—for use with 2-gang cast covers above	FS-GKR-2N	

# FS Cast Device Boxes: Three Gang; Malleable Iron

UNILETS<sup>®</sup> for use with Threaded Rigid Metal Conduit and IMC. FS Box 2.00" Deep. Furnished with Internal Ground Screw.

	Туре	Depth	Hub Size (Inches)	Catalog Malleable Iron Ridge Top
"UNILETS"	FS	Shallow	3/4 1	FS-3-75 FS-3-100
"UNILETS"	FSS	Shallow	3/4	FSS-3-75



# Fraction/Decimal

Equivalents (inches)	
Fraction	Decimal
1/16	0.06
1/8	0.13
3/16	0.19
1/4	0.25
5/16	0.31
3/8	0.38
7/16	0.44
1/2	0.50
9/16	0.56
5/8	0.63
11/16	0.69
3/4	0.75
13/16	0.81
7/8	0.88
15/16	0.94
1	1.00

Hub Size (In.)	Α	в	С	D	"FD"	E	F	"FD"
			Dim	ensions i	n Inches			
1/2	5.88	1.13	.63	2.00	2.69	1.88	1.78	2.44
3/4	5.88	1.38	.75	2.00	2.69	1.88	1.78	2.44
1	6.31	1.69	.94	2.00	2.69	2.13	1.78	2.44
			Dimen	sions in C	entimeter	s		
1/2	14.9	2.9	1.6	5.1	6.8	4.8	4.5	6.2
3/4	14.9	3.5	1.9	5.1	6.8	4.8	4.5	6.2
1	16.0	4.3	2.4	5.1	6.8	4.8	4.5	6.2

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# Stamped and Cast Covers for Three Gang FS and FD Device Boxes

Steel and Malleable Iron Covers for Ridge Top Boxes.

	Description	Catalog Number
	Stamped Steel Covers	
: : : : A	Furnished with stainless steel screws, less gasket	
	For square handle tumbler or	
	toggle flush switches	FSK-3TS
	Blank Cover	FSK-3B
	Malleable Iron Cast Covers— Weatherproof Furnished with gasket and stainless steel screws	
	For external operation of	
*	tumbler or toggle switches	
-	with square handles	FSK-3VTS
	Blank Cast Cover	FSK-3B-CM
	Gasket (Replacement)	
	Neoprene-for use with 3 gang	
	wet location covers above	FS-GKR-3N



# FDB Cast Device Boxes: Single and Multiple Gang Blank Bodies for Drilling and Tapping

UNILETS<sup>®</sup> for use with Threaded Rigid Metal Conduit and IMC. Furnished with Internal Ground Screw. Threaded Hubs for Sizes 1/2" thru 1-1/2".

All boxes have lugs, and all hubs are integral and drilled and tapped. Note: Refer to pages 17, 18, 19 for dimensions and ordering information.	Depth (2.69" Deep with Lugs)	Catalog Malleable Iron Ridge Top	Number Aluminum Ridge Top
<b>Single Gang Box</b> Use with all single gang covers. (Top, botto and sides may be drilled and tapped)	om Deep	FDB-1L	FDB-1L-A
<b>Two Gang Box, Multiple-Cover</b> Use with all single gang covers. (Top, botto and sides may be drilled and tapped)	om Deep	FDB-2L	FDB-2L-A
<b>Three Gang Box, Multiple–Cover</b> Use with all single gang covers. (Top, botto and sides may be drilled and tapped)	om Deep	FDB-3L	FDB-3L-A
<b>Two Gang Box, Single Cover</b> Use with all two-gang covers. May be drilled and tapped in back of box (wall opposite cover) as well as top, bottom, and sides	Deep	FDB-2GL	
<b>Three Gang Box, Single Cover</b> Use with all three-gang covers. May be drilled and tapped in back of box (wall opposite cover) as well as top, bottom, and sides	Deep	FDB-3GL	

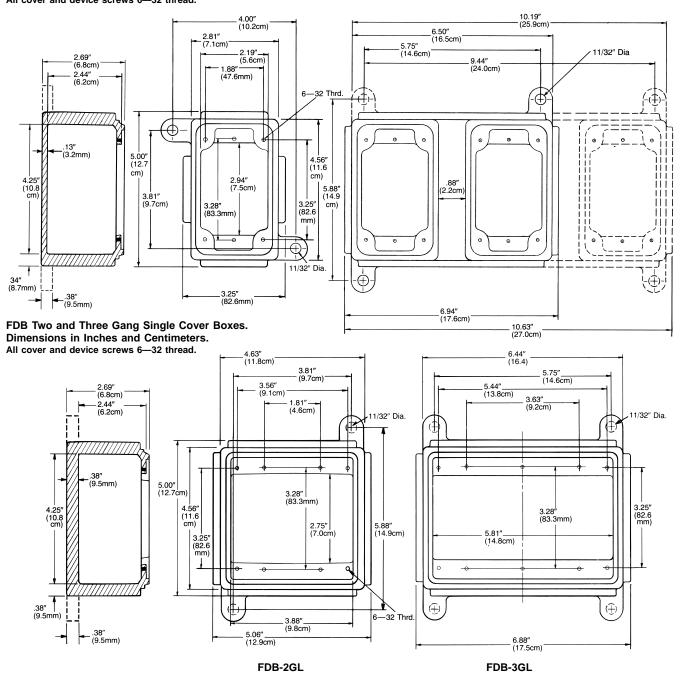
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# **B**–17

# Dimensions: FDB Single and Multiple Gang Device Boxes; Blank Bodies for Drilling and Tapping

FDB Single, Two, and Three Gang Multiple Cover Boxes. Dimensions in Inches and Centimeters. All cover and device screws 6—32 thread.





Determine catalog number as follows: (1) select FDB device box catalog number;

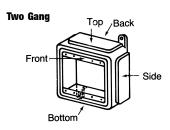
(2) select "Standard Conduit Opening Arrangement Diagram" number;

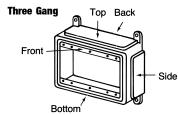
(3) determine if your desired number and trade size of conduit entries will fit in the FDB box chosen by reviewing the "Maximum Number and Size..." table on page B-19. Select a larger box if you experience a fit problem, and

(4) select symbols that represent conduit opening sizes from "Symbol Table." (Use "0" where no opening is required and separate the various divisions of the complete catalog number by dashes.)

## **Example:**

The blank body device box selected is FDB-3GL and the conduit-opening arrangement is diagram #6. Conduit opening "a" is to be 3/4"; "b", 1"; "c", no opening required; and "d", 1-1/2". The complete catalog number will be: FDB-3GL—6—BC0E.





## Symbol Table

Size Opening Inches	Drilled and Tapped Hole Symbol
Blank 1/2	0 A
3/4	В
1	С
1-1/4	D
1-1/2	E

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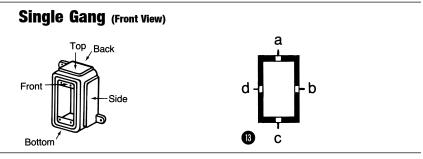
PAGE 18

# Ordering Information: FDB Cast Device Boxes; Blank Bodies for Drilling and Tapping

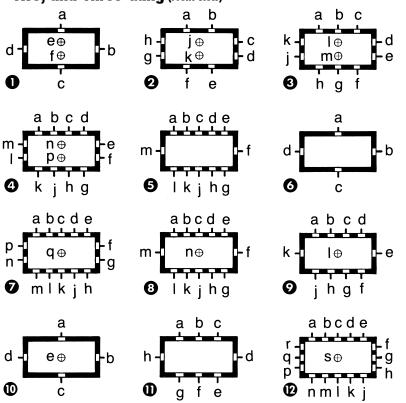
Single, Two, and Three Gang Boxes. Drilled and Tapped Openings from  $1/2^{\circ}$  thru  $1-1/2^{\circ}$ .

## Standard Conduit Opening Arrangement Diagrams

Opening "a" is always **TOP** of box.



## Two, and Three Gang (Front View)



If a "Standard Conduit Opening Arrangement" is not suitable for the application, or when openings are to be more accurately spaced, submit sketch locating openings (1) from centerlines of box and (2) from outside back of box (or from mounting lug surface if lugs are supplied).

All conduit openings will be located in centerline of walls and evenly spaced unless otherwise specified.



# Ordering Information: FDB Cast Device Boxes; Blank Bodies for Drilling and Tapping

Single, Two, and Three Gang Boxes. Drilled and Tapped Openings from 1/2" thru 1-1/2".

## Minimum Centerline Spacing Between Drilled and Tapped Conduit Openings\*

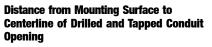
Allowance made for clearance over Appleton BBU Series bushings.

If unions are used additional space must be allowed.

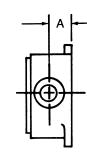
Table shows minimum distances between conduit-opening centerlines in various size combinations. For example, if 3/4° and 1/2° openings are to be drilled and tapped into one side of box, the minimum spacing between centerlines would be 1.31°.

## **Minimum Centerline Spacing in Inches**

Opening					
Size, Inches	1/2	3/4	1	1-1/4	1-1/2
1/2	1.19				
3/4	1.31	1.44			
1	1.44	1.56	1.69		
1-1/4	1.63	1.75	1.88	2.00	
1-1/2	1.75	1.88	2.00	2.19	2.31
BBU Bushing					
Dia.	1.06	1.31	1.56	1.94	2.19
UNY/UNF (R)					
Union Dia.	1.50	1.75	2.00	2.81	3.06
Conduit Dia.	.88	1.06	1.31	1.69	1.94



	FDB-1L FDB-2L FDB-3L	FDB-2GL FDB-3GL	
Conduit Opening (In.)	Dim. "A" (In.)		
1/2	1.06	1.06	
3/4	1.19	1.19	
1	1.31	1.31	
1-1/4	1.38	1.44	
1-1/2	1.25	1.50	



### Maximum Number and Sizes of Drilled and Tapped Conduit Openings Per Top, Bottom, Side and Back\*

Allowance made for clearance over Appleton BBU Series bushings.

_			No. Of Op	enings	_		No. Of Op	enings	
Type Box	Size (In.)	Top or Bottom	Per Side	Back	Туре Вох	Size (In.)	Top or Bottom	Per Side	Back
FDB-1L:	1/2	1	1		FDB-2GL:	1/2	3	3	2
One	3/4	1	1		One	3/4	2	2	2
Single Gang	1	1	1	none	Two Gang	1	2	2	2
Cover	1-1/4	1	1		Cover	1-1/4	2	2	1
	1-1/2	1	1			1-1/2	1	1	1
FDB-2L:	1/2	4	3		FDB-3GL:	1/2	5	3	2
Two	3/4	4	2		One	3/4	4	2	2
Single Gang	1	3	2	none	Three Gang	1	3	2	2
Covers	1-1/4	3	2		Cover	1-1/4	3	2	1
	1-1/2	2	1			1-1/2	2	1	1
FDB-3L:	1/2	7	3						
Three	3/4	6	2						
Single Gang	1	5	2	none					
Covers	1-1/4	4	2	-					
	1-1/2	3	1						

\*Conduit openings will be located in centerline of walls and evenly spaced unless otherwise specified.



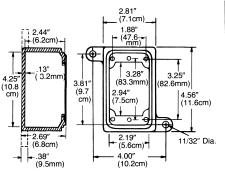
...

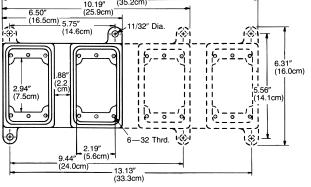
# FDH Cast Device Boxes: Single and Multiple Gang; Blank Bodies for Brazed Hubs

UNILETS<sup>®</sup> for Use with Threaded Rigid Metal Conduit and IMC. Available with Hub Sizes from 1/2" thru 1-1/2" (Union 1/2" thru 1-1/4"). Furnished with Internal Ground Screw.

	Note: All hubs are brazed on. Refer to ordering information on pages B-24 and B-25.	Depth (2.69" Deep with Lugs)	Catalog Number Malleable Iron Ridge Top
	<b>Single Gang Box</b> Use with single gang covers	Deep	FD-1L
"UNILETS"	<b>Two Gang Box, Multiple Cover</b> Use with single gang covers	Deep	FD-2L
	Three Gang Box, Multiple Cover Use with single gang covers	Deep	FD-3L
	Four Gang Box, Multiple Cover Use with single gang covers	Deep	FD-4L
FD Single and	2.81″ (7.1cm) 1.88″ (47.6→1) (32.1) (14.4) (32.1) (14.4) (14.5) (14.4) (14.5) (14.	13.88" (35.2cm) (25.9cm) (35.00) (35.0	

FD Single and Multiple Gang Boxes. Dimensions in Inches and Centimeters. All cover and device screws 6—32 thread.





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# **B**–21

# FDH Cast Device Boxes: Single and Multiple Gang; Blank Bodies for Brazed Hubs

UNILETS<sup>®</sup> for use with Threaded Rigid Metal Conduit and IMC. Available with Hub Sizes from 1/2" thru 1-1/2" (Union 1/2" thru 1-1/4"). Furnished with Internal Ground Screw.

Type: Brazed Hubs Note: refer to ordering information on pages B-24 and B-25.	Depth	Catalog Number* Malleable Iron Ridge Top
FS Box 2.00" deep, FD Box 2.69" deep. Accommodates single, two, three, an		
FS and FD with Lugs		
Single Gang Box	Shallow Deep	FS-1GL FD-1L
Two Gang Box Single Cover	Shallow Deep	FS-2GL FD-2GL
Three Gang Box Single Cover	Shallow Deep	FS-3GL FD-3GL
Four Gang Box Single Cover For four gang covers, see pg. 23	Shallow Deep	FS-4GL FD-4GL
 FS and FD without Lugs		
Two Gang Box Single Cover	Shallow Deep	FS-2G FD-2G
Three Gang Box Single Cover	Shallow Deep	FS-3G FD-3G
Four Gang Box Single Cover For four gang covers, see pg. B-23	Shallow Deep	FS-4G FD-4G

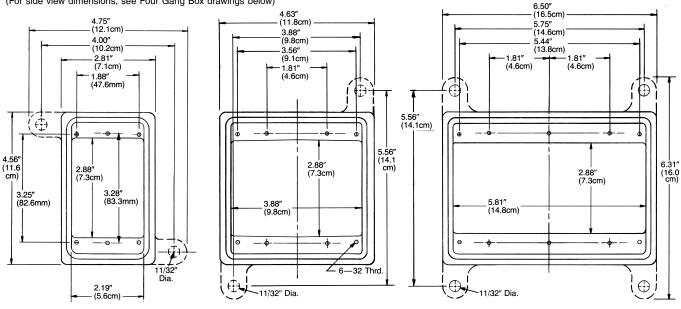
\*When ordering brazed hubs for blank bodies, refer to dimension and ordering information pages.



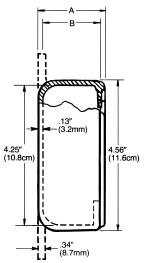
# **Dimensions:** FS and FD Single and Multiple Gang Device Boxes; Blank Bodies for Brazed Hubs

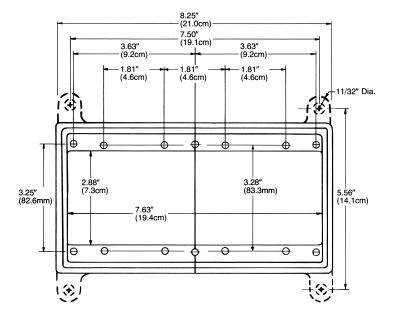
## FS and FD Single, Two and Three Gang Single Cover Boxes. Dimensions in Inches and Centimeters. All cover and device screws 6-32 thread.

(For side view dimensions, see Four Gang Box drawings below)



FS and FD Four Gang Single Cover Boxes. Dimensions in Inches and Centimeters. All cover and device screws 6-32 thread.





	Dimension	s in Inches		D	imensions i	n Centimete	ers
	Α	E	3	L A	4		В
"FS"	"FD"	"FS"	"FD"	"FS"	"FD"	"FS"	"FD"
2.00	2.69	1.78	2.44	5.1	6.8	4.5	6.2

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# **Covers for FS and FD Four Gang Single Cover Device Boxes**

Cast Malleable Iron and Stamped Steel Covers for use with Ridge Top Boxes.

		Catalog N	lumber
	Description	Malleable Iron	Steel
	Stamped Steel Covers		
	Furnished with stainless steel screws, less gasket		
A A A AM	For square handle tumbler or toggle flush switches		FSK-4TS
C .	Malleable Iron Cast Covers Weatherproof		
	Furnished with gasket and stainless steel screws		
	Blank Cast	FSK-4B-CM	
$\sim$	Gasket (Replacement)		
	Neoprene—for use with 4-gang cast covers above	FS-GKR-4N	FS-GKR-



Determine catalog number as follows: (1) select FDH device box catalog number;

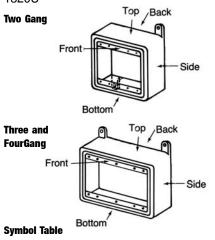
(2) select "Standard Hub Arrangement Diagram" number;

(3) Detemine if your desired number and trade size of conduit entries will fit in the FDH box choosen, by reviewing the "Maximum Number and Size..." table on page B-25. Select a larger box if you experience a fit problem: and

(4) select symbols that represent hub sizes from "Symbol Table." (Use "0" where no hub is required, and separate the various divisions of the complete catalog number by dashes.)

## **Example:**

The blank body device box selected is FS-3GL and the hub arrangement is diagram #8. Hub "a" is to be 1/2" BRAZED THREADED; hub "b", 1" BRAZED THREADED; hub "c", 3/4" BRAZED THREADED; hub "d", no hub is required; and hub "e", 1-1/4" BRAZED UNION. The complete catalog number will be: FS-3GL—8— 1320U



Hub Size (inches)	Brazed Threaded Hub Symbol	Brazed Union Hub Symbol
Blank	0	0
1/2	1	R
3/4	2	S
1	3	Т
1-1/4	4	U
1-1/2	5	_

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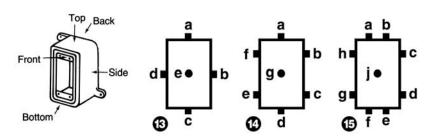
# Ordering Information: FDH Cast Device Boxes; Blank Bodies for Brazed Threaded Hubs

Single, Two, Three, and Four Gang Boxes. Brazed Threaded Hubs for Rigid Conduit, 1/2" thru 1-1/2"; Brazed Union Hubs, 1/2" thru 1-1/4"

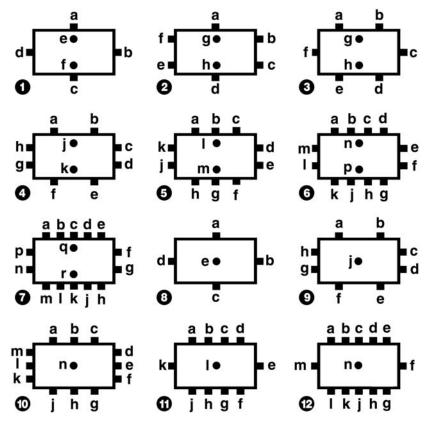
#### **Standard Hub Arrangement Diagrams**

Opening "a" is always **TOP** of box.

## Single Gang (Front View)



## Two, and Three and Four Gang (Front View)



If a "Standard Hub Arrangement" is not suitable for the application, or when hubs are to be more accurately spaced, submit sketch locating hubs (1) from centerlines of walls and (2) from outside back of box (or from mounting lug surface if lugs are supplied).

All hubs will be located in centerlines of walls and evenly spaced unless otherwise specified.



# **B**–25

# Ordering Information: FDH Cast Device Boxes; Blank Bodies for Brazed Threaded Hubs

Single, Two, Three, and Four Gang Boxes. Brazed Threaded Hubs for Rigid Conduit, 1/2" thru 1-1/2"; Brazed Union, 1/2" thru 1-1/4".

#### **Minimum Centerline Spacing Between Brazed Threaded Hubs\***

Table shows minimum distances between hub centerlines in various size combinations. For example, if 1-1/4° and 1/2° hubs are to be brazed on one side of box, the minimum spacing between centerlines would be 1.75°. If union hubs are used, additional space must be allowed.

## Distance from Mounting Surface to Centerline of Brazed Threaded Hubs

## **Minimum Centerline Spacing in Inches**

Hub Size (In.)	1/2	3/4	1	1-1/4	1-1/2
1/2	1.25				
3/4	1.38	1.50			
1	1.56	1.69	1.81		
1-1/4	1.75	1.88	2.00	2.19	
1-1/2	1.94	2.06	2.19	2.38	2.56
Hub Dia.	1.13	1.38	1.63	2.00	2.38
Conduit Dia.	.88	1.06	1.38	1.69	1.94
UNY/UNF (R) Union Dia.	1.50	1.75	2.00	2.81	_



	Dim. "A" (cm)
.63	1.6
.75	1.9
.88	2.2
1.09	2.8
1.22	3.1
	(Inches) .63 .75 .88 1.09

## Maximum Number and Sizes of Brazed Threaded Hubs per Top, Bottom, Side and Back\*

Table based on brazed threaded hubs only. Maximum union hub sizes: FS Box, 3/4"; FD Box, 1" (1-1/4" maximum on back, FS and FD)

		Max. Nu	mber of	Opening	gs			Max. Nu	mber of	of Openings
Туре Вох	Hub Size (In.)	Top or ) Bottom	Per Side	Back		Type Box	Hub Size (In.)	Top or Bottom	Per Side	Back
FD-1L:	1/2	2	2	1		FS-3G &	1/2	4	2	6
One	3/4	1	2	1		FS-3GL:	3/4	3	2	6
Single Gang	1	1	2	1		One	1	3	2	6
Cover	1-1/4	1	1	1		Three Gang	1-1/4	None	None	3
	1-1/2	1	1	1		Cover	1-1/2	None	None	3
FD-2L:	1/2	4	2	4		FS-4G &	1/2	5	2	8
Two	3/4	2	2	4		FS-4GL	3/4	4	2	8
Single Gang	1	2	2	4		One	1	4	2	8
Covers	1-1/4	2	1	2		Four Gang	1-1/4	None	None	4
	1-1/2	2	1	2		Cover	1-1/2	None	None	4
FD-3L:	1/2	6	2	6		FD-2G &	1/2	3	24	
Three	3/4	3	2	6		FD-2GL:	3/4	2	2	4
Single Gang	1	3	2	6		One	1	2	2	4
Covers	1-1/4	3	1	3		Two Gang	1-1/4	1	1	2
	1-1/2	3	1	3		Cover	1-1/2	1	1	2
FD-4L:	1/2	8	2	8		FD-3G &	1/2	4	26	
Four	3/4	4	2	8		FD-3GL:	3/4	3	2	6
Single Gang	1	4	2	8		One	1	3	2	6
Covers	1-1/4	4	1	4		Three Gang	1-1/4	2	1	3
	1-1/2	4	1	4		Cover	1-1/2	2	1	3
FS-1GL:	1/2	2	2	1		FD-4G &	1/2	5	28	
One	3/4	1	2	1		FD-4GL:	3/4	4	2	8
Single Gang	1	1	2	1		One	1	4	2	8
Cover	1-1/4	None	None	1		Four Gang	1-1/4	3	1	4
	1-1/2	None	None	1		Cover	1-1/2	3	1	4
FS-2G &	1/2	3	2	4						
FS-2GL:						lv spaced	unless			
One	1	2	2	4	otherwise specified. Where spacings are critical, submit sketch showing exact spacing requirements.					
Two Gang	1-1/4	None	None	2						
Cover	1-1/2	None	None	2	endor op					

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# Wiring Capacity: FS and FD Cast Device Boxes

Cast Hub Boxes and Blank Bodies.

## FS and FD Boxes with Cast Hubs: All Types

## Canacity in Cubic Inches



Single Gang



**Two Gang Tandem** 



FD-4L



FDB-2L



FDB-3GL



FS-EXT

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Hub Size	Single Gang		Two Gang		Three	Two Gang Tandem	
Inches	FS	FD	FS	FD	FS	FD	FS
1/2	18.0	25.0	32.0	45.0	46.0	62.0	40.0
3/4	18.0	25.0	32.0	45.0	46.0	62.0	40.0
1	18.0	25.0	32.0	45.0	46.0	62.0	40.0
Capacit	y in Cubic	Centimeters	6				•
1/2	295.0	409.7	524.4	737.4	753.8	1016.0	655.5
3/4	295.0	409.7	524.4	737.4	753.8	1016.0	655.5
1	295.0	409.7	524.4	737.4	753.8	1016.0	655.5

## FS and FD Blank Bodies for Brazed Hubs (FDH Series)

**Capacity in Cubic Inches** 

Gangs	FS	Cu In.	FD	Cu. In
	Cat. No.	Vol.	Cat. No.	Vol.
Single	FS-1GL	18.0	FD-1L	26.0
Two	FS-2G	32.0	FD-2G, FD-2GL	45.0
Two	FS-2GL	32.0	FD-2L	65.0
Three	FS-3G	46.0	FD-3G, FD-3GL	62.0
Three	FS-3GL	46.0	FD-3L	98.0
Four	FS-4G	58.0	FD-4G, FD-4GL	78.0
Four	FS-4GL	58.0	FD-4L	130.0
Capacity in	Cubic Centimeters			
Single	FS-1GL	295.0	FD-1L	426.1
Two	FS-2G	524.4	FD-2G, FD-2GL	737.4
Two	FS-2GL	524.4	FD-2L	1065.2
Three	FS-3G	753.8	FD-3G, FD-3GL	1016.0
Three	FS-3GL	753.8	FD-3L	1065.9
Four	FS-4G	950.4	FD-4G, FD-4GL	1278.2
Four	FS-4GL	950.4	FD-4L	2130.3
FDB Bodies	for Drilling and Tapping			
	Canacity in Cubic Inches		Canacity in Cubic Co	ntimotors

	Capacity in Cu	ubic Inches	Capacity in C	ubic Ce	ntimeters
Gangs	Cat. No.	Cu. In. Vol.	Cat. No.		Cu. Cm. Vol.
Single	FDB-1L	26.0	FDB-1L		421.1
Two	FDB-2L	65.0	FDB-2L		1065.2
Three	FDB-3L	98.0	FDB-3L		1605.9
Two	FDB-2GL	45.0	FDB-2GL		737.4
Three	FDB-3GL	62.0	FDB-3GL		1016.0
FS Single G	ang Extension		FS Two Gang Ex	tension	
Catalog Number	Volume Cu. In.	Volume Cu. cm.		/olume Cu. In.	Volume Cu. cm.
FS-1EXT	10.8	177.0	FS-2EXT 1	18.0	295.0



Class I, Div. 2, Groups B,C,D Class II, Div. 2, Groups F,G Class III NEMA 3, 3R, 4, 4X\*,12

# **FD Factory Sealed Toggle Switches/Covers**

For use FD Cast Device Boxes.

## Applications

• For use in wash down or other wet locations to switch lighting and light power loads.

• For use in Class I, Division 2, Groups B, C, D Hazardous locations where ignitable vapors, gases or combustible dusts may be present.

• For use in NEMA 4X applications.

#### **Features**

• Corrosion-resistant captive stainless steel cover-screws.

• 20 amp Single pole, 2 pole and 3 way models for use with 120-277 Volt A.C.

Lockout hole for 1/4" hasp.

• Factory sealed - No external seals required.

• For use with Appleton FD Cast Device Boxes in various hub configurations for varying applications.

NEMA 4X rated.

## **Standard Materials**

• Covers: Malleable iron or Copper free (4/10 of 1% max) Aluminum.

- Gasket: EPDM.
- Cover Screws: Stainless Steel.

#### **Standard Finishes**

• Malleable iron covers: Triple coat -1) zinc electroplate 2) dichromate and 3) epoxy powder coat.

• Aluminum Covers: epoxy powder finish.

## Compliances

UL Standard 698, 1604

\*NEMA 4X rated when using an Aluminum FD back box and cover assembly.



Gasket is designed so that it wraps around ridge top of Appleton aluminum or malleable iron device box. Result is a positive seal against moisture.

**B**–27

Gasket construction. Cover tightens on largest perimeter of gasket and fits snugly against portion of gasket that wraps around ridge top of box.

## Cover Assemblies with Switch and Gasket (Factory Sealed) 20 ampere – 120–277 Volt A.C.

(Furnished with 4 captive stainless steel mounting screws. Furnished with Type TW leads No. 12 AWG, 10" Long.)

Catalog Nu Malleable Iron		Number Aluminum*
1 Pole	FDK2-F1	FDK2-F1A
2 Pole	FDK2-F2	FDK2-F2A
3 Way	FDK2-F3W	FDK2-F3WA

# Replacement Switch Only (Factory Sealed)

## 20 ampere – 120–277 Volt A.C.

(Furnished with 4 captive stainless steel mounting screws. Furnished with Type TW leads No. 12 AWG, 10" Long.)

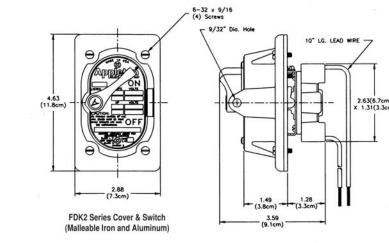
 Catalog Number

 1 Pole
 LAB21L

 2 Pole
 LAB22L

 3 Way
 LAB23WL

## **Dimensions: FD Factory Sealed Toggle Switches**



Appleton<sup>®</sup>



