# 2x2 and 4x4 FIBER-DUCT™ Routing System
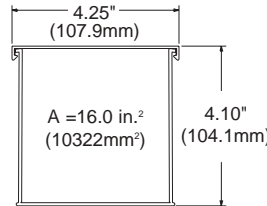
specifications

The 2x2 and 4x4 routing systems shall be used to route, segregate and protect fiber optic and communication cabling. The solid wall routing systems should be UL Listed as an optical fiber channel for general purpose use. They shall be compliant with UL 2024A and NEC articles 770 and 800 when installed per instructions. The slotted wall channel and cover shall be UL Recognized. A full complement of fittings with a 2" minimum bend radius, snap-on covers and mounting brackets shall be available. Channel and fittings shall be manufactured from impact-resistant and flame retardant (V-0) materials. Channel shall have non-slip snap-on covers that can be easily removed to allow access for moves, additions and changes. Channel and fittings finish shall be pure color, resist scratches, dents, and not peel or corrode. Available system colors shall be yellow, orange and black. A full complement of brackets shall be available for attaching system components to ladder rack, threaded rod, auxiliary framing, strut, equipment racks and raised floor pedestals.

technical information

2.25"
(57.1mm)

A = 4.0 in.²
(2580mm²)

2.10"
(53.3mm)

4.25"
(107.9mm)

A =16.0 in.²
(10322mm²)

4.10"
(104.1mm)
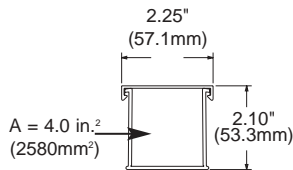
Dimensions are in inches (Dimensions in parentheses are metric).

Open channel 50% fill capacity (2" pile up):	Cable	No. of Cables
2x2 FIBER-DUCT™ System	1.6mm	562
	2.0mm	359
	3.0mm	160
Fiber Optic Ribbon Interconnect	5.20mm	53
	Category 6 6.35mm	36
Augmented	Category 6 9mm	18
Open channel 50% fill capacity (4" pile up):		
4x4 FIBER-DUCT™ System	1.6mm	2343
	2.0mm	1449
	3.0mm	666
Fiber Optic Ribbon Interconnect	5.20mm	221
	Category 6 6.35mm	149
Augmented	Category 6 9mm	74

Material:	Rigid PVC (channel), ABS (fittings)
Flammability:	94V-0
Approvals:	UL Listed to 2024A Optical Fiber Cable Routing Assemblies UL Recognized (File No. E147128) slotted wall CSA Certified (File No. 016446 0 000) slotted wall
CSI spec form:	LP-CSISPEC-FD-1

key features and benefits

Large capacity 2" x 2" and 4" x 4" sizes	Ideal for routing, segregating, and protecting large amounts of fiber cabling; provides a more secure installation for fiber or high performance copper cabling
Minimum 2" bend radius control fittings	Bend radius control in fittings helps prevent excessive bends in fiber optic and high performance copper cabling
Snap-on covers	Covers snap on or off channel and fittings to enclose or gain access to system; fully encloses the channel to provide protection per UL 2024A; provides quick and easy access for moves, adds, and changes
Mates to PANDUIT cable management rack panels	Provides methods to mate system to equipment mounted on standard EIA 19" or 23" equipment racks and vertical cable managers

applications

The FIBER-DUCT™ 2x2 and 4x4 Routing Systems are comprised of channel, fittings and brackets designed to segregate, route, and protect fiber optic cable and copper cabling. It is suited for data center applications where cable is routed from distribution areas to equipment cabinets or racks. It is used in Telco Central Offices to route fiber optic jumper cables between fiber distribution frames and equipment bays. It can be deployed over the racks or in approved under floor applications. Fittings maintain a minimum 2" bend radius to protect against signal loss due to excessive cable bends. Available system colors are yellow, orange, and black to differentiate various types of cabling. A full complement of brackets is available to attach system components to support structures found in all applications.

The FIBER-DUCT™ 2x2 and 4x4 Routing Systems are part of the PANDUIT complete fiber distribution system, which includes the FIBERRUNNER™ 12x4, 6x4, 4x4 and 2x2 Routing Systems, cable management, and racks.

Channel and Cover

2x2 solid wall channel (6'):	S2X2**6NM
4x4 solid wall channel (6'):	S4X4**6NM
2x2 slotted wall channel (6'):	E2X2**6
4x4 slotted wall channel (6'):	E4X4**6
2x2 cover (6'):	C2**6
4x4 cover (6'):	C4**6

Fittings and Spillouts

|	
2x2 coupler:	FCF2X2**
4x4 coupler:	FCF4X4**
2x2 horizontal right angle:	FRA2X2**
4x4 horizontal right angle:	FRA4X4**
2x2 horizontal tee:	FT2X2**
4x4 horizontal tee:	FT4X4**
2x2 4-way cross:	FFWC2X2**
4x4 4-way cross:	FFWC4X4**
2x2 end cap:	FEC2X2**
4x4 end cap:	FEC4X4**
2x2 inside vertical 45°:	FIV452X2**
4x4 inside vertical 45°:	FIV454X4**
2x2 outside vertical 45°:	FOV452X2**
4x4 outside vertical 45°:	FOV454X4**
2x2 inside vertical right angle:	FIVRA2X2**
4x4 inside vertical right angle:	FIVRA4X4**
2x2 outside vertical right angle:	FOVRA2X2**
4x4 outside vertical right angle:	FOVRA4X4**
4x4 to 2x2 FIBER-DUCT™ Reducer:	FRF42**
2x2 bend radius control trumpet:	TRC2BL
4x4 bend radius control trumpet:	TRC4BL
2x2 innerduct transition:	FITF2X2
4x4 innerduct transition:	FITF4X4A
4x4 innerduct transition:	FITF4X4B
4x4 adapter to ADC 4x4 FiberGuide*:	FADC4X4
4x4 adapter to various 4x4 systems:	FTDNS4X4**
2x2 plastic snap rivet:	NR2WH
4x4 plastic snap rivet:	NR4BL
Plastic bolts and wing nuts:	F14PWN
Plastic bolts and hex nuts:	F14PN
2x2 boltless snap bracket:	FBB2
4x4 boltless snap bracket:	FBB4
2x2 vertical tee:	FVTHD2X2**
4x4 vertical tee:	FVT4X4**
1-port spillout to 1.5" I.D. corrugated tubing:	FIDT2X2**
2-port spillout to 1.5" I.D. corrugated tubing:	FIDT4X4BL
3-sided vertical tee trumpet spillout:	FTR4X4**
3-sided BRC trumpet spillout for 2x2 exit:	FTR2X2**

Mounting Brackets

Existing 1/2" thr rod brkt:	FTRBE12
Existing 5/8" thr rod brkt:	FTRBE58
New 1/2" thr rod brkt:	FTRBN12
New 5/8" thr rod brkt:	FTRBN58
Under-floor brkt:	FUSB
1/2" thr rod to 1 1/2" ladder rack brkt:	FLB12X15
5/8" thr rod to 1 1/2" ladder rack brkt:	FLB58X15
1/2" thr rod to 2" ladder rack brkt:	FLB12X20
5/8" thr rod to 2" ladder rack brkt:	FLB58X20
Ladder rack brkt:	FLRB
"L" wall mount brkt:	FLB
Adjustable "Z" bracket:	FZBA1.5X4
Low profile "Z" bracket:	FZBLP
EIA/TIA threaded rod mounting bracket:	FEIAB58
Two-piece ladder rack 1/2" thr rod:	F2PCLB12
Two-piece ladder rack 5/8" thr rod:	F2PCLB58
Two-piece framing clip 5/8" thr rod to 9/16" C-channel aux. framing bars:	FRAFC58

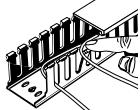*ADC's 6x4 FiberGuide Management Systems is a registered trademark of ADC Telecommunications, Inc.

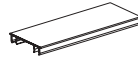**Substitute: YL = Yellow, OR = Orange, BL = Black

Channel and Cover
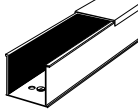
S2X2**6NM
S4X4**6NM

E2X2**6
E4X4**6

C2**6
C4**6

Fittings and Spillouts

FCF2X2**
FCF4X4**
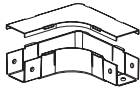
FRA2X2**
FRA4X4**
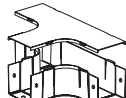
FT2X2**
FT4X4**
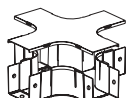
FFWC2X2**
FFWC4X4**

FEC2X2**
FEC4X4**
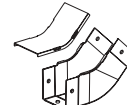
FIV452X2**
FIV454X4**
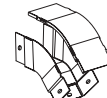
FOV452X2**
FOV454X4**
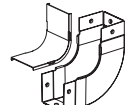
FIVRA2X2**
FIVRA4X4**
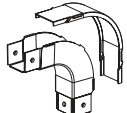
FOVRA2X2**
FOVRA4X4**
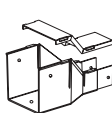
FRF42**
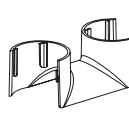
TRC2BL
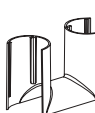
TRC4BL
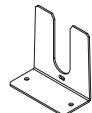
FITF2X2
FITF4X4A
FITF4X4B
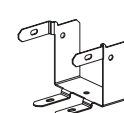
FADC4X4
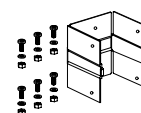
FTDNS4X4**

NR2WH
NR4BL

F14PWN

F14PN
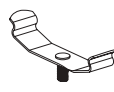
FBB2
FBB4
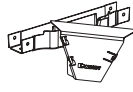
FVTHD2X2**
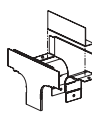
FVT4X4**

FIDT2X2**
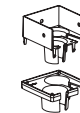
FIDT4X4BL
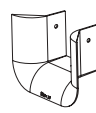
FTR4X4**
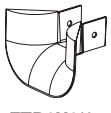
FTR2X2**

Mounting Brackets
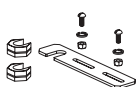
FTRBE12
FTRBE58

FTRBN12
FTRBN58

FUSB
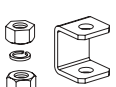
FLB12X15
FLB58X15
FLB12X20
FLB58X20

FLRB
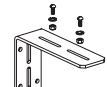
FLB

FZBA1.5X4
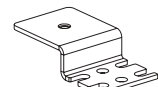
FZBLP
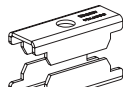
FEIAB58
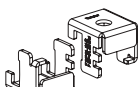
F2PCLB12
F2PCLB58

FRAFC58

**Substitute: YL = Yellow, OR = Orange, BL = Black

For more information

Visit us at www.panduit.com

Contact Customer Service by email: cs@panduit.com
or by phone: 800-777-3300 and reference FRSP07

PANDUIT ®