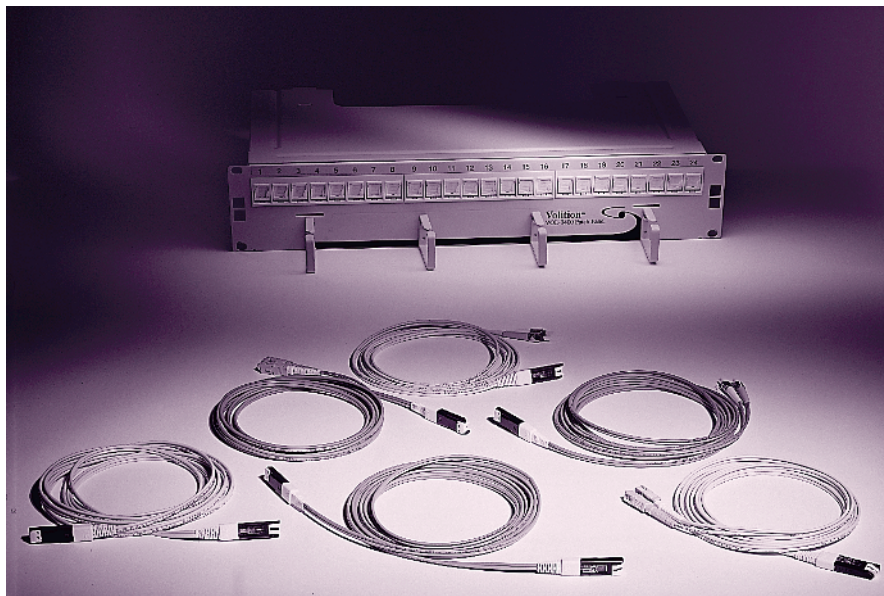


# Volition™ VF-45™ Multimode and Single-mode Socket and Patch Cords

The Volition VF-45 Socket and Patch Cords from 3M are the latest duplex, fiber optic interconnects for affordable, high bandwidth, fiber-to-the-desk networks. The VF-45 plug and socket work like an 8-pin modular jack, bringing the simplicity of the RJ-45 jack to optical fiber applications.

VF-45 sockets can be field terminated in closet patch panels and in work area outlets for premises backbone and horizontal cabling applications. Field termination on duplex multimode and single-mode fiber using the Volition VF-45 Termination Kit takes less than two minutes, two fibers at a time!

The mating VF-45 plugs, factory-terminated onto patch cords, enables interconnection from socket-to-socket or from socket-to-transceiver devices. VF-45 patch cords are provided in a variety of lengths and are also available in hybrid ST\* or SC configurations. All VF-45 patch cords are constructed with the innovative 3M "GGP" high-strength coated optical fiber, providing for durability and tight bend radius in desktop applications.



1

## Ordering Information for Volition VF-45 Sockets

Product Number	Description	UPC 051138-
<b>VOL-0001</b>	<b>VF-45 Socket, Multimode</b>	58290
	Includes socket base, white housing, Socket Fiber Holder and boot; complete for termination to 250 µm coated multimode fiber.	
<b>VOL-0002</b>	<b>VF-45 Socket, Single-mode</b>	75927
	Includes socket base, white housing with blue doors, Socket Fiber Holder and boot; complete for termination to 250 µm coated single-mode fiber.	
<b>VOL-0011</b>	<b>VF-45 Socket, Fiber Holder</b>	58627

**Note:** Termination requires the VF-45 Quick Install Kit (VOL-0562).

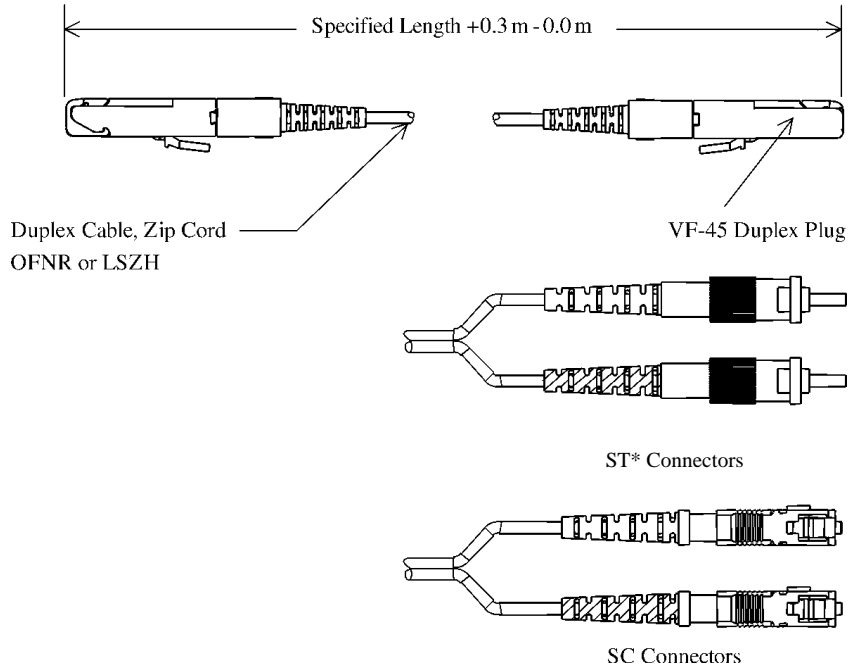


## Features — Benefits

Plug-to-socket design (no adapter needed)	Low cost
High-density duplex interconnect	Small size
V-groove alignment with injection-molded parts	Eliminates expensive ferrules, sleeves or precision components
RJ-45 style latch	Familiar, easy to use
Socket, snap together assembly	Easy to install, lower labor costs
Tested to TIA and IEC performance requirements	Reliable
Patch cords made with innovative 3M high strength fiber (requiring a minimum bend diameter of only one inch)	Dependable in under-desk applications
Full line of Volition Network Solutions products and services	Warranted system offering

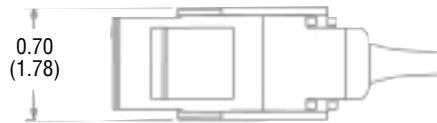
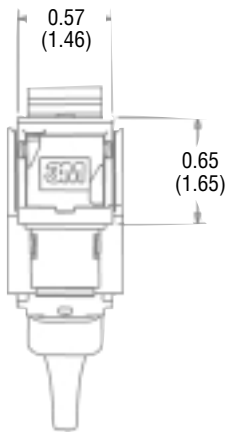
**Volition™ VF-45™ Patch Cords**

VF-45 Patch Cords are available in the following combinations:  
 VF-45 to VF-45  
 VF-45 to ST\*  
 VF-45 to SC



**Volition VF-45 Socket**

Dimensions in. (cm)



**Specifications for Volition VF-45 Patch Cords**

Material	Specifications	
	Single-mode	Multimode
Connector	Engineering Thermoplastic UL-94 VO	
Boot	Thermoplastic Elastomer	
Fiber	9 μm single-mode	62.5 μm or 50 μm multimode

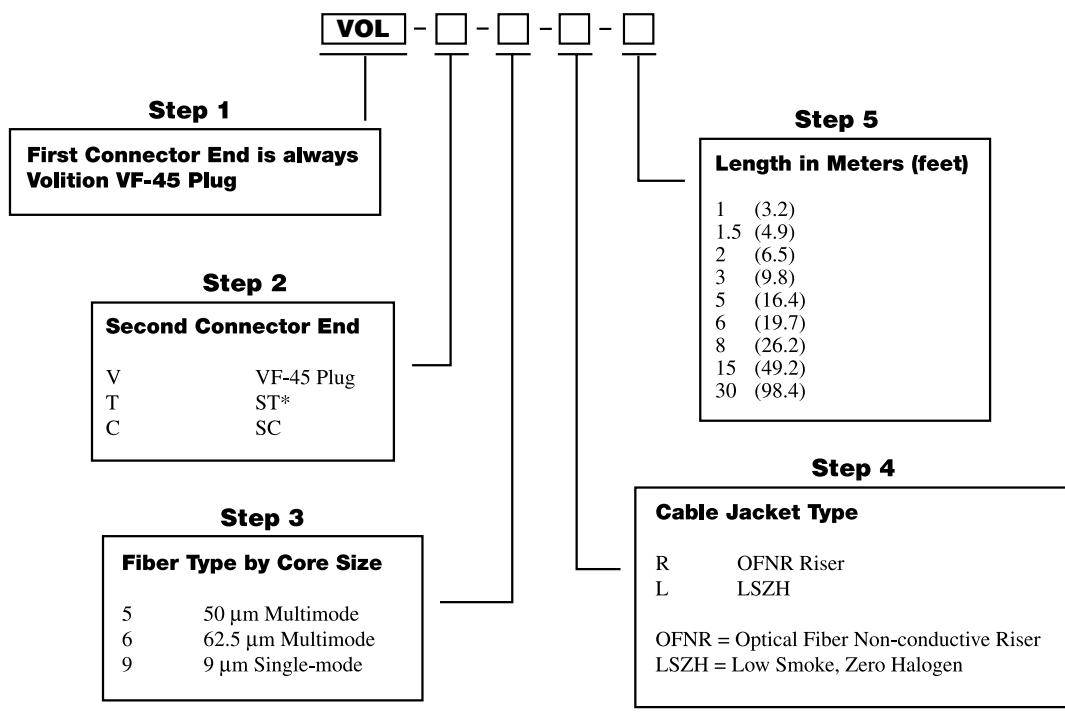
**Specifications for Volition VF-45 Plug and Sockets**

Test	Test Conditions/Requirements	
	Single-mode	Multimode
Attenuation	≤0.75 dB	<0.75 dB
Reflection	≤-26 dB	>-20 dB
Mating durability	500 cycles, <0.75 dB max.	
Strength of coupling	33 N, ≤0.75 dB	
Plug cable retention	Tensile load 66 N, side pull 19.4 N, ≤0.75 dB	Tensile load 66 N, side pull 6.6 N, <0.75 dB
Plug flex	100 cycles, ± 90 degrees, 0.5 kg, <0.75 dB	
Plug twist	10 cycles, ± 2.5 revolutions, 15 N, <0.75 dB	
Cold	-10°C (14°F) for 96 hours, <0.3 dB increase	
Heat	60°C (140°F) for 14 days, <0.3 dB increase	
Humidity*	40°C, 95% relative humidity for 96 hours, ≤0.4 dB	
Impact*	8 drops @ 1.8 m, <0.75 dB	
Thermal cycling**	-10° to 60°C (14° to 140°F), 5 cycles, <0.3 dB increase	
Vibration*	10 to 55 Hz, 30 min. each axis, <0.3 dB increase	

\*Multimode  
 \*\*Single-mode

# Volition™ Patch Cord Ordering Chart

In five easy steps, you can accurately specify your Volition VF-45™ Patch Cord.  
Establish 3M part numbers by using the following codes.



Example: VF-45 to ST\*, 9 μm Single-mode OFNR Cable, 2 meters.  
**VOL T 9 R 2**  
 (VOL-T9R2)

Example: VF-45 to VF-45, 50 μm Multimode LSZH Cable, 30 meters.  
**VOL 5 L 30**  
 (VOL-5L30)

## Specifications

Volition VF-45 Patch Cords interconnected with Volition VF-45 Sockets perform to the following loss and reflection data and conform to the following combination of TIA, IEC and 3M performance specifications.

**62.5 μm Loss & Reflection Typical Performance**

Loss (dB)		Reflection (dB)	
1310	850	1310	850
Mean	-0.21 -0.28	-29.2	-27.2
Sigma	0.13 0.14	1.41	1.77

**50 μm Loss & Reflection Typical Performance**

Loss (dB)		Reflection (dB)	
1310	850	1310	850
Mean	0.28 0.37	-33.3	-32.7
Sigma	0.17 0.17	1.83	1.57

**Single-mode Loss & Reflection Typical Performance**

Loss (dB)	Reflection (dB)
1.310	1.310
Mean	0.20
Sigma	0.18
	-56.4
	3.4

TIA Specifies:  
Loss ≤ 0.75 dB  
Reflection ≤ -26.0 dB