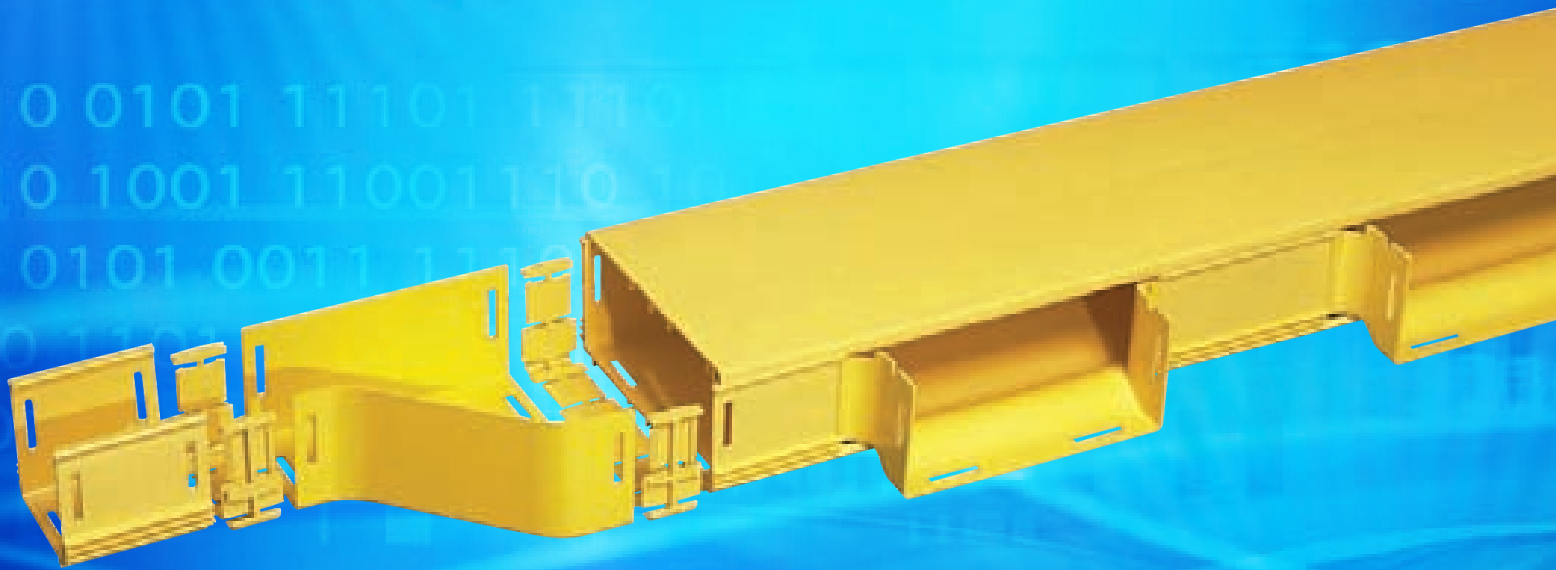




www.warrenandbrown.com.au

OPTICAL FIBER DUCTING RACEWAY



Edition 05/2011

YellowDuct
Fiber Management Made Easy ►►

Warren & Brown Technologies Pty Ltd

Warren and Brown commenced manufacturing operations in Melbourne, Australia in 1921. Over the years we have successfully designed and produced a range of products for the automotive, medical, health and fitness markets. A strong focus on developing products for global markets has provided exciting challenges and solid growth. As the company evolved and grew over the years, Warren & Brown developed a revolutionary range of innovative and highly functional products for the telecommunications industry.

The Lightpaths Fiber Optic Management System now forms the dynamic focus of our business and Warren and Brown Technologies is recognised globally as a leading manufacturer and supplier of quality telecommunications solutions and equipment. WBT products include equipment racks, splice trays and enclosures, patch panels, distribution and termination frames and plastic ducting systems for routing and protection of optical fibers.

The company has modern, well equipped manufacturing plants throughout Australia and South East Asia, which operate under Third Party certified quality management systems.

The Warren & Brown Technologies design team is committed to the dynamic development of the product range in order to meet the ever changing needs of our customers throughout the world, including the United Kingdom, Europe, Eastern Europe, Russia, North America, the Middle East and Asia.

Warren & Brown Technologies's focus on rapid, market driven product design and development allows us to offer unique innovative and market leading optical fiber solutions to customers around the world.



YellowDuct Fiber Optic Ducting-Raceway



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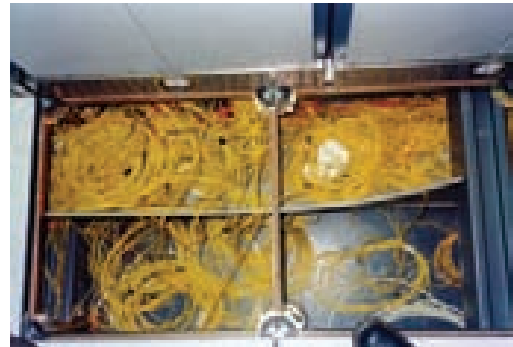
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DRIVING FIBER FURTHER ►►

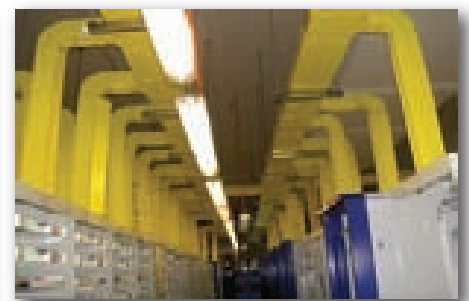
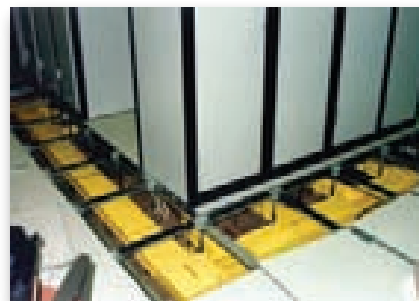
Why use fiber optic ducting-raceway

Fiber optic cords carry far more services and much greater throughput than traditional copper services and downtime or outages can cost tens of thousands of dollars per second in lost revenue for each cord damaged. Good fiber protection is absolutely essential. Fiber cords are fragile and need to be correctly protected throughout any cabling installation from end to end. Traditional cable routing on open cable trays and ladders may cause damage to the delicate fiber cables. These methods of routing cables provide no protection for the exposed fiber.



High risk, poor (spaghetti optics) cable management (lack of management)

Fiber cords need to be segregated from all copper services and routed in enclosed duct~raceway, clearly defined by means of a bright distinctive colour. They also need protection against compression, and the minimum bend radius, generally specified as 30mm (1.25") must not be compromised.



Fiber optic ducting~raceway is the best way to safely route cords and clearly segregate them from other services. In selecting a ducting~raceway system for fiber optic cords many factors need to be considered:

- 1 Labour costs incurred in installing cabling infrastructure in telecommunications exchanges or data centres can be very expensive if the system chosen is not easy to install.
- 2 All plastic based products used should be self-extinguishing and halogen free to avoid the risk of harming staff, transmission equipment, rescuers or buildings in the case of a fire.
- 3 All plastic based products should be ROHS compliant
- 4 The need for zero down-time when using optical fiber. The system chosen should be easily changed or extended without the need to remove the existing fiber or shut down services.

Why use WBT YellowDuctFiber Optic Ducting~Raceway System



WBT YellowDuct fiber optic ducting~raceway is a unique system for routing and protecting fiber optic cords between termination equipment, patch panels and fiber optic splicing cabinets or frames in telecommunications exchanges, data centres, universities, hospitals, or anywhere fiber optic cabling is present. Easily mounted above equipment racks or below floors, it provides an easily accessible solution to any situation.

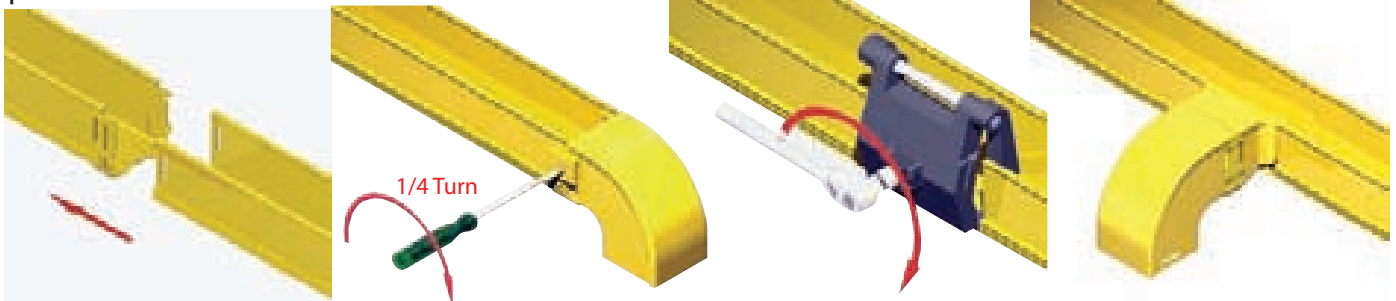
WBT YellowDuct Raceway items, conform to the following standards:

- ISO 9001 Certified Quality Management System by NCS International
- Fire retardent plastic, Halogen Free, UL94-VO rated
- UL2024A standard
- EEU - ROHS requirements



Available in 6 sizes in solid wall or slotted wall for exiting fibers, with the largest range of connecting components and mounting hardware available. The WBT ducting~raceway system provides a solution to any fiber routing application.

WBT YellowDuct components simply snap together or can be joined with "slotless" joiners. Vertical drops can be positioned or added easily by adding a cutout in the horizontal duct~raceway with a simple to operate hand tool.



The unique design of the YellowDuct system protects the fiber from damage and ensures that the bend radius of the cable is not compromised.

All components in the WBT YellowDuct system are manufactured from Noryl, a very strong plastic, which is self extinguishing and halogen free (certified to UL94VO specification) which means in the case of a fire, the gases emitted will not cause harm to personnel, buildings or transmission equipment, unlike some other brands of ducting.

WBT YellowDuct fiber optic ducting~raceway products are manufactured to the highest quality standards (ISO9001), complying with the stringent requirements of ULA2024A & ROHS and carry a 5 year warranty.

DRIVING FIBER FURTHER ►►

Design & Selection Procedure For Raceway System

1. Colour Coding for Optimum Cable Management

With the ever increasing demand for zero down-time solutions in data centers and Telecommunications networks there has been a growing need for redundancy cable systems.

To route both operating and redundant optic fibers in the yellow coloured ducting can create problems in identification of the redundant fiber and/or system. As a result there is an obvious need to differentiate between the operating and redundant networks of fiber optic cabling. To minimise the potential for costly mistakes in this area, Warren & Brown Technologies have introduced Orange ducting which is recommended for highlighting the redundant fiber network, thereby improving maintenance efficiency.



Orange Ducting is recommended for highlighting the redundant fiber network



Parallel to the redundancy needs, a new issue has arisen in installations. The state-of-art 10 Gigabit copper UTP cabling also has very high demands on bend radius. This requires a new approach to the conventional metal cable trays (ladders, baskets etc). The conventional metal trays are not designed to provide safe bending radius and as a result Warren & Brown Technologies has introduced Black Ducting.

Again, this new black WBT ducting has the same unique features and benefits of the yellow and orange ducting and allows clear distinction of the sensitive 10 Gigabit copper UTP cabling from the two WBT optic fiber systems.



Black ducting is recommended for use with UTP 10 Gigabit copper

All part numbers listed in the catalogue are for Yellow ducting, so when ordering black or orange ducting just add "O" for orange or "B" for black to the end of the relevant part number. We also have available a range of grey duct. For this just add "G" to the part number.



DRIVING FIBER FURTHER ►►

2. Selecting the Ducting - Raceway size

WBT YellowDuct ducting~raceway is available in six sizes. **It is most important to select a size that allows for expansion and future additions to the ducting system.**

All too often cable systems are underspecified in order to reduce installation costs. In this world of the ever increasing need for the storage and processing of data it is false economy to just specify for existing needs. It is ultimately most cost effective to provide for the future and over specify when it comes to capacity.

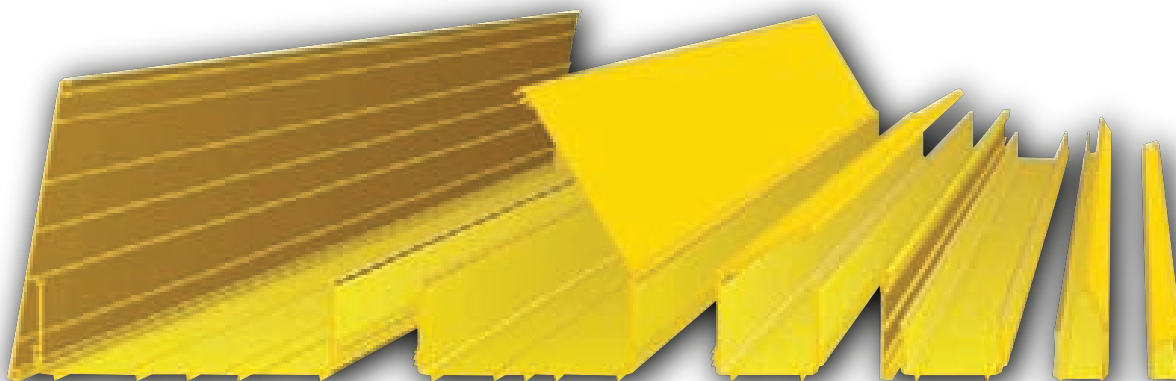
Cable exit points and take offs also need to be taken into account as these components have different capacity ratings to the main ducting~raceway.

The capacities listed below are recommended to ensure no damage will occur to the cords due to crushing.

This is not the number of optical fiber cords that the ducting~raceway will accomodate if completely filled.



Duct size millimetres / mm	30 x 30			50 x 50			100 x 50			100 x 100			220 x 100			300 x 100		
Duct size inches / in	1.25 x 1.25			2 x 2			4 x 2			4 x 4			8 x 4			12 x 4		
Optical Cable size / mm	3	2-2.4	1.6-2	3	2-2.4	1.6-2	3	2-2.4	1.6-2	3	2-2.4	1.6-2	3	2-2.4	1.6-2	3	2-2.4	1.6-2
Capacities																		
Straight Duct-Raceway	45	60	100	120	155	265	250	350	600	500	700	1200	1100	1500	2500	1500	2100	3600
Duct-Raceway with Ramp-off										300	400	700	720	1000	1700			
Vertical Tee - Straight Through										500	700	1200	300	400	700			
Vertical Tee Downspout - Drop										500	700	1200	500	700	1200			
Over the top Outlet										300	400	700						
Convuluted Tubing	Split 20mm dia.			Split 38mm dia.			Split 50mm dia.			50 x 50 square								
Optical cable size / mm	3	2-2.4	1.6-2	3	2-2.4	1.6-2	3	2-2.4	1.6-2	3	2-2.4	1.6-2						
Tubing Capacities	10	12	20	24	30	50	60	80	135	120	155	265						



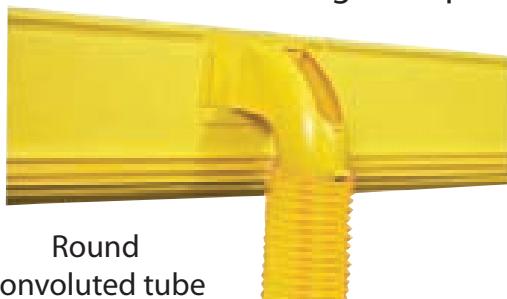
3. Ducting - Raceway mounting

WBT YellowDuct ducting~raceway can be mounted from walls, ladder rack, unistrut, on raised floor support brackets, on floors, or to the top of equipment racks of frames. Select an appropriate mounting method from the examples shown below otherwise you can contact your WBT sales office or distributor for additional mounting options and custom solutions.

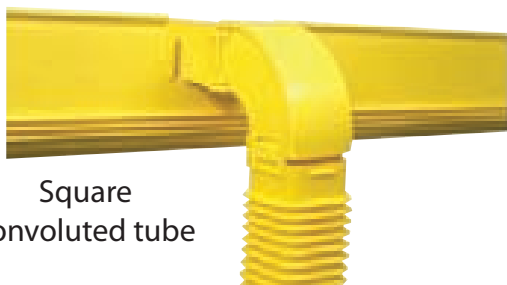


4. Cable entry and exits

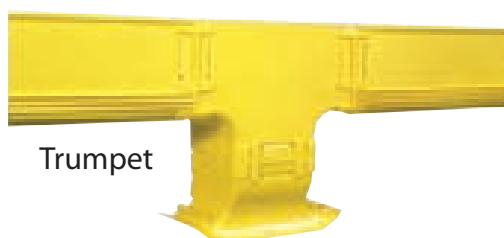
Select the appropriate dropper or outlet method from the following examples.



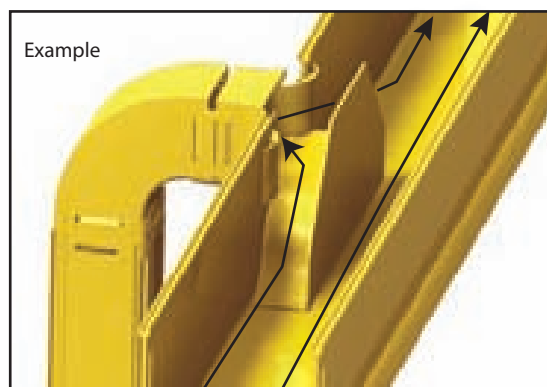
Round
convoluted tube



Square
convoluted tube



Trumpet



Example

Fiber Cords can be simply routed via
Ramp Off into or out of the Ducting

Cords can easily pass through the
ducting to the next drop point or exit



Solid Duct

See Example

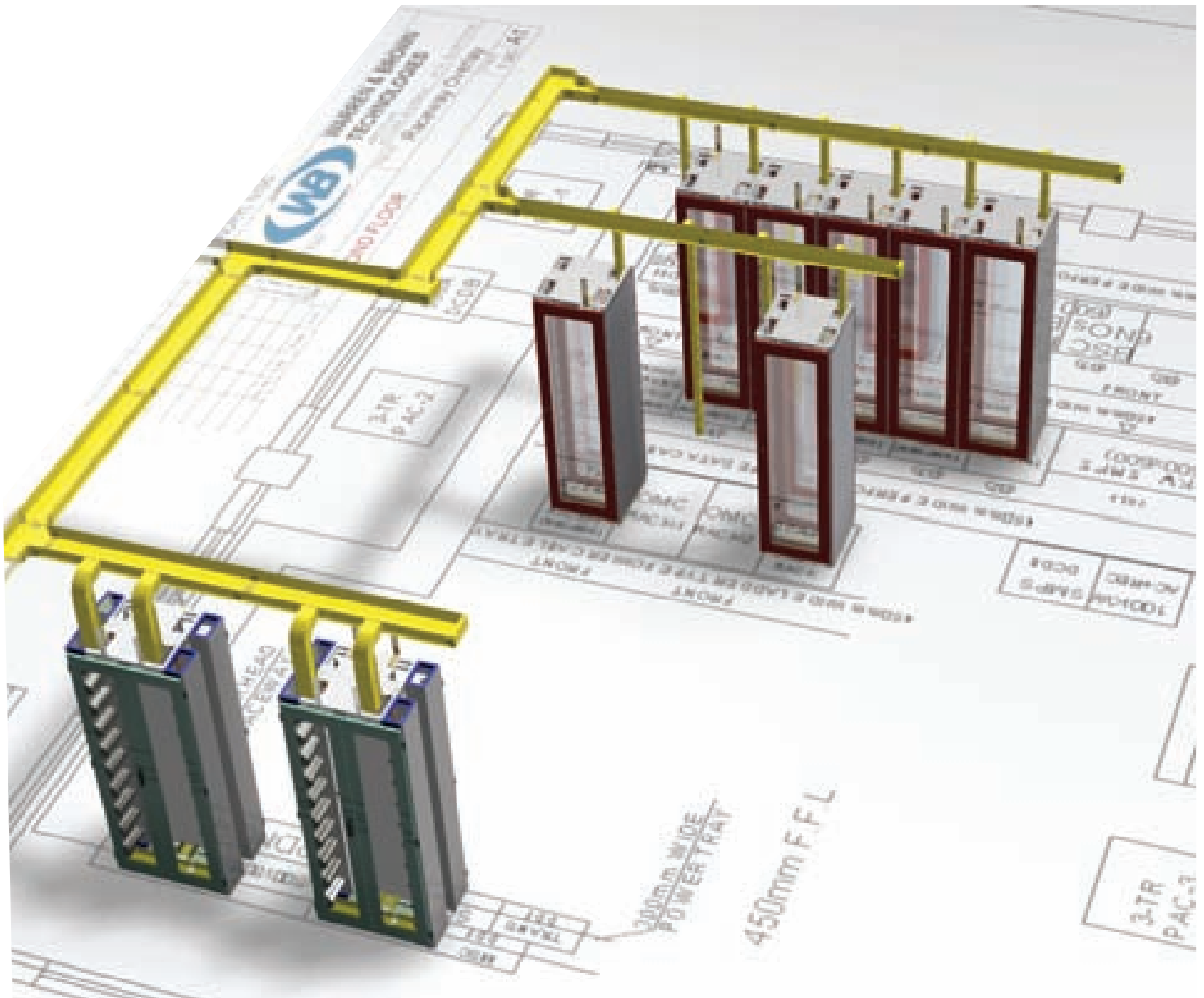
Single or Dual High
Density Convoluted
Tube outlets



5. Draw plan

Draw plan view of room/area where ducting~raceway is required. Include cabinet sizes and positions as well as ladder racks, cable trays or Air conditioning ducts. Denote duct size required in each area. Mark ducting~raceway support bracket locations. The recommended spacing for mounting brackets is 900mm or 1.2 Metres maximum.

For copper systems use 600mm spacing. Brackets should be mounted close to the joiners if possible. Draw a side view of all areas where the ducting~ raceway changes level or mounting system needs to change.



6. Materials List

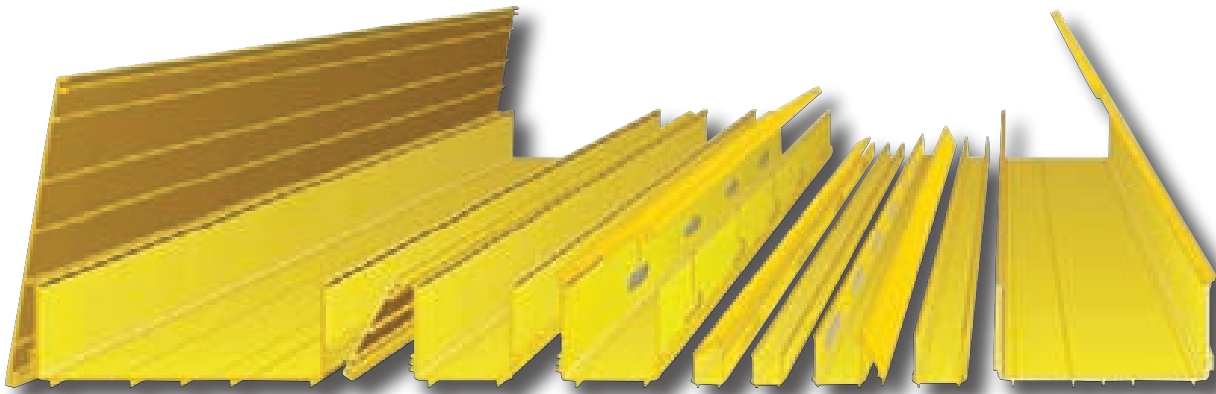
List all components required by part number and quantity from the following pages. Note: Ensure that all components including joiners, mounting hardware, end caps, convoluted tube etc. are included.

We recommend including 10% more joiners and brackets.

YellowDuct Components

Straight Ducting - Raceway

WBT YellowDuct straight ducting~raceway is available in six sizes with or without covers. Slotted duct/raceway is available in some sizes for vertical drops or applications inside equipment racks to allow cords to exit through the side of the duct. Some sizes are available with hinged covers (hinges included in pack), or clip on covers. All duct sizes come in 2 metre (6.3') lengths, and where required, are slotted at each end for simply snapping together with an appropriate joiner. Most other ducting - raceway brands are only available in 6 foot lengths - 10% shorter than YellowDuct.



Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
Solid duct	TC1279-83	TC1279-81	TC1279-223	TC1279-23	TC1279-21	TC1279-275
Solid duct & cover	TC1279-83XA	TC1279-81XA	TC1279-223ASN	TC1279-23ASN	TC1279-21ASN	TC1279-275A
Solid duct & hinged cover	TC1279-83A*	TC1279-81A*	TC1279-223A	TC1279-23A	TC1279-21A	N/A
Slotted duct (side exit)	TC1279-83SL	TC1279-81SL	TC1279-223SL	TC1279-23SL	N/A	N/A
Slotted duct & cover	TC1279-83SLXA	TC1279-81SLXA	TC1279-223SLASN	TC1279-23SLASN	N/A	N/A
Slotted duct & hinged cover	TC1279-83SLA*	TC1279-81SLA*	TC1279-223SLXA	TC1279-23SLA	N/A	N/A

* comes with 8 shorter clip on covers

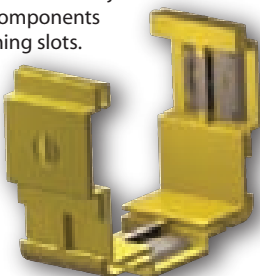
Joiners

WBT YellowDuct joiners are used to snap together system components and straight ducting~raceway. They simply snap into the slots in the end of each piece to be joined.

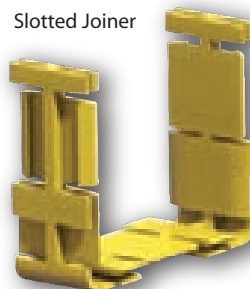
Note: For straight ducting~raceway that has been cut to length, new slots need to be made with a suitable size slotting tool.

"Slotless" joiners are now available in sizes from 100 x 100mm upwards and will join the ducting~raceway components with or without joining slots.

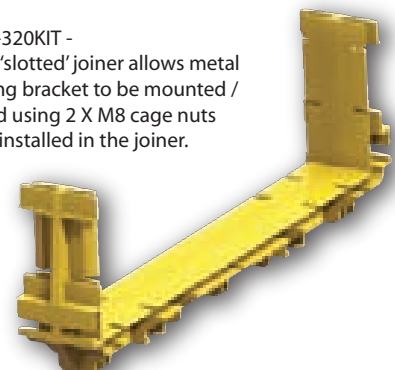
Slotless Joiner



Slotted Joiner



TC1279-320KIT - 300mm 'slotted' joiner allows metal mounting bracket to be mounted / attached using 2 X M8 cage nuts already installed in the joiner.

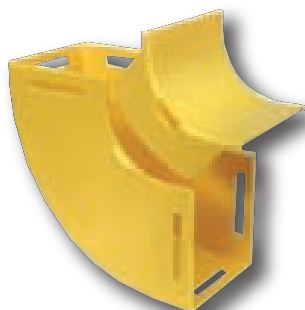


Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
Joiners (requires slots)	TC1279-98	TC1279-73	TC1279-226	TC1279-27	TC1279-25	TC1279-320KIT
Slotless Joiners	N/A	N/A	N/A	TC1279-248A	TC1279-250A	TC1279-287A

Vertical Elbows

WBT YellowDuct vertical elbows are used to connect horizontal routes at different height, or to allow the fiber path to be raised or lowered to avoid obstacles. Retrofit versions are used where there is existing fiber. They are available with or without covers.

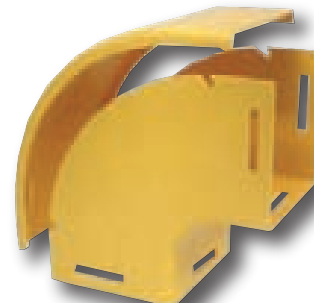
90° Up Elbow & Cover



90° Up Elbow & Cover - Retrofit



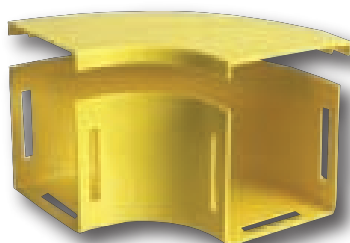
90° Down Elbow & Cover



Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
30° down	TC1279-135-30	TC1279-87-30	N/A	TC1279-111-30	TC1279-123-30	N/A
30° down & cover	TC1279-135-30A	TC1279-87-30A	N/A	TC1279-111-30A	TC1279-123-30A	N/A
30° down retrofit	N/A	N/A	N/A	TC1279-111-30R	TC1279-123-30R	N/A
30° up	N/A	N/A	N/A	TC1279-113-30	TC1279-125-30	N/A
30° up & cover	N/A	N/A	N/A	TC1279-113-30A	TC1279-125-30A	N/A
30° up retrofit	N/A	N/A	N/A	TC1279-113-30R	TC1279-125-30R	N/A
45° down	TC1279-135-45	TC1279-87-45	N/A	TC1279-111-45	TC1279-123-45	TC1279-285
45° down & cover	TC1279-135-45A	TC1279-87-45A	N/A	TC1279-111-45A	TC1279-123-45A	TC1279-285A
45° down retrofit	N/A	N/A	N/A	TC1279-111-45R	TC1279-123-45R	N/A
45° up	N/A	TC1279-143-45	N/A	TC1279-113-45	TC1279-125-45	TC1279-283
45° up & cover	N/A	TC1279-143-45A	N/A	TC1279-113-45A	TC1279-125-45A	TC1279-283A
45° up retrofit	N/A	TC1279-143-45R	N/A	TC1279-113-45R	TC1279-125-45R	N/A
90° down	TC1279-135	TC1279-87	TC1279-236	TC1279-111	TC1279-123	TC1279-193
90° down & cover	TC1279-135A	TC1279-87A	TC1279-236A	TC1279-111A	TC1279-123A	TC1279-193A
90° down retrofit	N/A	TC1279-87R	TC1279-236R	TC1279-111R	TC1279-123R	N/A
90° up	TC1279-247	TC1279-143	TC1279-246	TC1279-113	TC1279-125	TC1279-298A
90° up & cover	TC1279-247A	TC1279-143A	TC1279-246A	TC1279-113A	TC1279-125A	TC1279-298KIT
90° up retrofit	TC1279-247R	TC1279-143R	TC1279-246R	TC1279-113R	TC1279-125R	N/A
90° up & down enclosed	N/A	N/A	N/A	TC1279-39A	TC1279-37A	N/A

Horizontal Elbows

90° Horizontal Elbow & Cover



WBT YellowDuct Horizontal Elbows are used to change the direction of horizontal routes. They are available with or without covers.

45° Horizontal Elbow & Cover



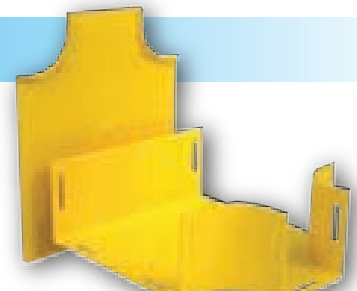
Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
30° elbow	TC1279-137-30	TC1279-77-30	N/A	TC1279-47	TC1279-45	N/A
30° elbow & cover	TC1279-137-30A	TC1279-77-30A	N/A	TC1279-47A	TC1279-45A	N/A
45° elbow	TC1279-137-45	TC1279-77-45	N/A	TC1279-31-45	TC1279-29-45	TC1279-304
45° elbow & cover	TC1279-137-45A	TC1279-77-45A	N/A	TC1279-31-45A	TC1279-29-45A	TC1279-304A
90° elbow	TC1279-137	TC1279-77	TC1279-269	TC1279-31	TC1279-29	TC1279-387
90° elbow & cover	TC1279-137A	TC1279-77A	TC1279-269A	TC1279-31A	TC1279-29A	TC1279-387A

Horizontal Tees

WBT YellowDuct Horizontal Tees may be used to branch off the main route or provide a method of breaking into Horizontal Duct. They are available with or without covers.



TC1279-03A
100mm Horizontal Tee & Cover



TC1279-09A
220mm - 100mm Horizontal Tee & Cover

Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
Horizontal Tee	TC1279-115	TC1279-75	TC1279-224	TC1279-03	TC1279-01	TC1279-279
Horizontal Tee & Cover	TC1279-115A	TC1279-75A	TC1279-224A	TC1279-03A	TC1279-01A	TC1279-279A
300mm - 220mm Duct Horizontal Tee & Cover			TC1279-316A		220mm - 100mm Duct Horizontal Tee & Cover	
300mm - 100mm Duct Horizontal Tee & Cover			TC1279-398A		100mm - 220mm Duct Horizontal Tee & Cover	
			TC1279-316A		TC1279-09A	
			TC1279-398A		TC1279-393A	

Vertical Tees (Downspouts) - Intrasuite Assemblies

WBT YellowDuct Vertical Tees can be used to drop cables vertically from horizontal routes into frames or cabinets. Retro fit tees provide open access and are used where cables are already in place. They are available with or without covers.

TC1279-63A: Vertical Tee & Cover



TC1279-11A: Vertical Tee & Cover



TC1279-11R: Retrofit Tee & Cover



Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
Vertical Drop Size						
30 x 30mm drop	TC1279-167	N/A	N/A	N/A	N/A	N/A
30 x 30mm drop & cover	TC1279-167A	N/A	N/A	N/A	N/A	N/A
50 x 50mm drop	N/A	TC1279-145	N/A	N/A	N/A	N/A
50 x 50mm drop & cover	N/A	TC1279-145A	N/A	N/A	N/A	N/A
50 x 50mm drop retro	N/A	TC1279-145R	N/A	N/A	N/A	N/A
100 x 50mm drop	N/A	N/A	TC1279-228	N/A	N/A	N/A
100 x 50mm drop & cover	N/A	N/A	TC1279-228A	N/A	N/A	N/A
100 x 100mm drop	N/A	N/A	N/A	TC1279-63	TC1279-11	N/A
100 x 100mm drop & cover	N/A	N/A	N/A	TC1279-63A	TC1279-11A	N/A
100 x 100mm drop retro	N/A	N/A	N/A	TC1279-63R	TC1279-11R	N/A
220 x 100mm drop	N/A	N/A	N/A	N/A	N/A	TC1279-277
220 x 100mm drop & cover	N/A	N/A	N/A	N/A	TC1279-329A	TC1279-277A

Horizontal Crosses



TC1279-71A
100mm X 100mm Horizontal Cross

WBT YellowDuct Horizontal Crosses can be used to provide a cross intersection in straight duct. Reduction crosses join horizontal duct of different sizes.

Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
Horizontal Cross	N/A	TC1279-139	TC1279-234	TC1279-71	TC1279-61	TC1279-300
Horizontal Cross & cover	N/A	TC1279-139A	TC1279-234A	TC1279-71A	TC1279-61A	TC1279-300A
Reduction Cross	220 x 100 to 100 x 100		TC1279-65		220 x 100 to 300 x 100	
Reduction Cross & Cover	220 x 100 to 100 x 100		TC1279-65A		220 x 100 to 300 x 100	
Reduction Cross	300 X 100 to 100 x 100		TC1279-396		TC1279-331	
Reduction Cross & Cover	300 X 100 to 100 x 100		TC1279-396A		TC1279-331A	

Fiber Storage Loops

WBT YellowDuct Fiber Storage Loops are used to safely store excess fiber length and can be placed in any horizontal route or inside cabinets. They are available in inline or offset versions.



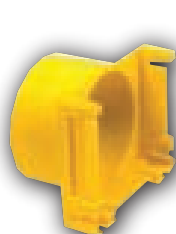
Inline Loop



Offset Loop

Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
Inline	N/A	TC1279-209KIT	TC1279-186KIT	TC1279-208KIT	TC1279-207KIT	TC1279-485KIT
Offset	N/A	TC1279-178KIT	TC1279-195KIT	TC1279-192KIT	TC1279-191KIT	TC1279-315KIT

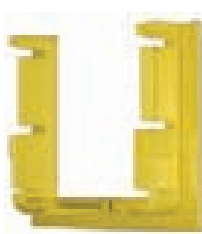
End Caps



Tube Outlet for 44mm Tube



Solid End Cap



End Support Bracket for
100mm X 100mm Duct

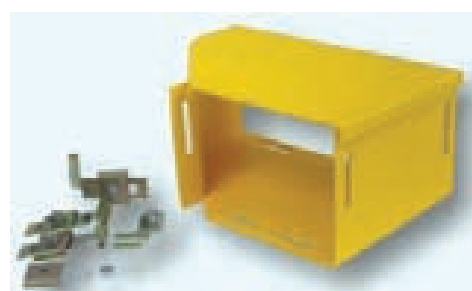
WBT YellowDuct End Caps are used to close off the end of a horizontal or vertical route of duct. Some are sealed, others have knock outs or spigots for convoluted tubing or fiber feedout.

Size Millimetres Size Inches	30 x 30 1.25" x 1.25"	50 x 50 2" x 2"	100 x 50 4" x 2"	100 x 100 4" x 4"	220 x 100 8" x 4"	300 x 100 12" x 4"
Sealed	N/A	N/A	TC1279-227	TC1279-57	TC1279-56	N/A
Sealed	N/A	N/A	N/A	TC1279-251	TC1279-252	TC1279-288
(for use with slotless duct)			N/A		N/A	N/A
1 x 17mm knockout	TC1279-128	N/A	N/A	N/A	N/A	N/A
Tube outlet for 32mm tube	TC1279-128D	N/A	N/A	N/A	N/A	N/A
2 x 20mm dia knockouts	N/A	TC1279-127	N/A	N/A	N/A	N/A
1 x 38mm dia knockout	N/A	TC1279-127B	N/A	N/A	N/A	N/A
1 x 38mm cutout	N/A	TC1279-127C	N/A	N/A	N/A	N/A
Tube outlet for 44mm tube	N/A	TC1279-127D	N/A	N/A	N/A	N/A
2 x 32mm dia knockouts	N/A	N/A	N/A	TC1279-57B	N/A	N/A
2 x 46mm dia holes	N/A	N/A	N/A	TC1279-57C	N/A	N/A
End Support Bracket	N/A	N/A	N/A	TC1279-57D	N/A	N/A
88mm Tube outlet	N/A	N/A	N/A	TC1279-456	N/A	N/A
Dual 88mm Tube outlets	N/A	N/A	N/A	N/A	TC1279-457	N/A

Adaptors

WBT YellowDuct Adaptors are used to connect parts from other brands to the YellowDuct ducting~raceway. Most other Ducting brands can be slotted with a lightpaths slotting tool to suit one of our slotted joiners.

Adaptor kit 100 x 100 YellowDuct to ADC 4"	TC1279-109KIT
Adaptor kit Left hand YellowDuct 220 x 100mm to ADC 6"	TC1279-149KIT
Adaptor kit Right hand YellowDuct 220 x 100mm to ADC 6"	TC1279-150KIT
Speed Drop YellowDuct to ADC	TC1279-307SLKIT
Adaptor kit YellowDuct 300 x 100 to ADC 12"	TC1279-327KIT
Adaptor kit Right hand YellowDuct 100 x 100 to ADC 6"	TC1279-472KIT
Adaptor kit Left hand YellowDuct 100 x 100 to ADC 6"	TC1279-473KIT
Adaptor kit Right Hand YellowDuct 220 x 100 to Panduit 6"	TC1279-486KIT
Adaptor kit Right Hand YellowDuct 220 x 100 to Panduit 6"	TC1279-487KIT

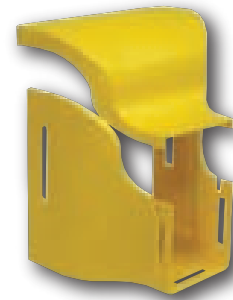


TC1279-149KIT
Adaptor Kit Left hand
YellowDuct 220mm to ADC 6"

Reducers

WBT YellowDuct Reducers allow different size ducts to be joined together. They are available with or without covers.

Main Size Reduction Size	50 x 50 30 x 30	100 x 50 50 x 50	100 x 100 50 x 50
Reducer	TC1279-97	TC1279-238	TC1279-91
Reducer & cover	TC1279-97A	TC1279-238A	TC1279-91A



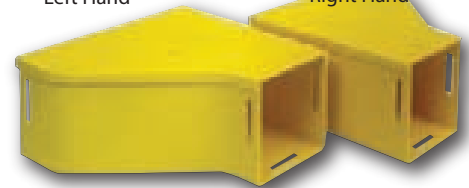
TC1279-91A
100mm - 50mm
Reducer & Cover

Main Size Reduction Size	100 x 100 100 x 50	220 x 100 100 x 100	300 x 100 220 x 100
Reducer	TC1279-240		TC1279-281
Reducer & cover	TC1279-240A		TC1279-281A
Reducer Right Hand		TC1279-05	
Reducer Right Hand & Cover		TC1279-05A	
Reducer Left Hand		TC1279-07	
Reducer Left Hand & Cover		TC1279-07A	

220mm - 100mm Reducer & Cover

TC1279-07A
Left Hand

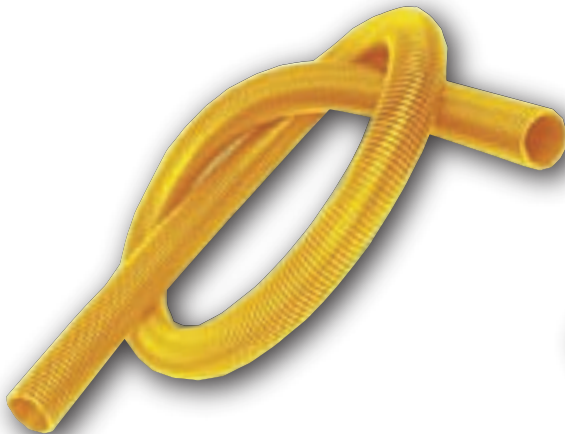
TC1279-05A
Right Hand



Tubing

WBT YellowDuct Tubing is used for feeding entering or exiting fibers from the ducting~raceway into equipment racks. They are convoluted or ribbed to allow adjustment if drops cannot be positioned exactly over or under equipment. Some are available with removable covers, or split for ease of cable installation.

Round Convoluted Tube



Square Convoluted Tube



Openable Convoluted Tube



*GREY

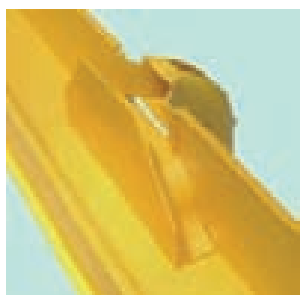
Description	Yellow	Black
Convoluted tube 50mm dia (1 meter length)	TC1279-26Y	TC1279-26
Convoluted tube 50mm dia (2 meter length)	TC1279-53Y	TC1279-53
Convoluted tube 25mm dia (2 meter length)	N/A	TC1279-54*
Convoluted tube 38mm dia (2 meter length)	N/A	TC1279-68
Convoluted tube 50mm square (350mm length)	TC1279-85YEL	TC1279-85BLK
Openable Conv. tube W/cover 50mm square (350mm length)	TC1279-85KIT	N/A
Convoluted tube 30mm square (350mm length)	TC1279-88	N/A
Convoluted tube split 20mm dia (2 meter length)	N/A	TC1279-100*
Convoluted tube split with cover 50mm dia (1 meter length)	N/A	TC1279-350
Convoluted Tube, Flexible, 75mm ID/88mm OD x 2 metres long	TC1279-458	N/A
Convoluted Tube, Flexible, 75mm ID/88mm OD x 1 metres long	TC1279-458-1	N/A
Convoluted Tube, Flexible, 83mm ID/65mm OD x 2 metres long	TC1279-471	N/A
Convoluted Tube, Flexible, 83mm ID/65mm OD x 1 metres long	TC1279-471-1	N/A
Convoluted Tube, Flexible, 75mm ID/88mm OD x 1.15 metres long	TC1279-479	N/A
Convoluted tube 63mm ID/ 65mm OD x 1.1 metres, c/w two joiners to connect to 75mm ID/88mm OD convoluted tube	TC1279-480A	N/A
Convoluted Tubing Adaptor Kit, 75mm ID/ 88mm OD to 44mm ID/ 50mm OD Tubing	TC1279-494KIT	N/A

Drop-Off Solutions

Side Drop-off Kits

These components provide different methods of allowing fibers to enter or leave the duct - raceway. They can be purchased as kits or as individual.

Side drop off to 50mm dia. convoluted tube



TC1279-41KIT

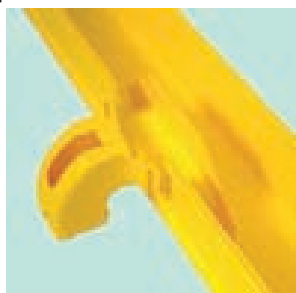


- 1 x Drop off connector
- 1 x Spreader
- 1 x Ramp up

This drop can fit about 80, 2.4mm cables

Use tool TC1279-50KIT to make cut-out in side of duct

Side drop off to 50mm square convoluted tube



TC1279-89KIT

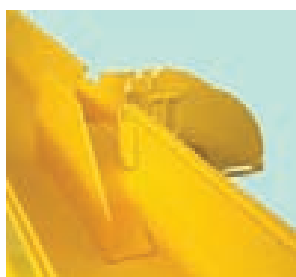


- 1 x Drop off connector
- 1 x Spreader
- 1 x Ramp up

This drop can fit between 100 - 150, 2.4mm cables

Use tool TC1279-50KIT to make cut-out in side of duct

Side drop-off to 50mm Ducting - Raceway



TC1279-93KIT



- 1 x Break out
- 1 x Ramp up
- 1 x Joiner
- 1 x Down Elbow

This drop can fit between 100 - 150, 2.4mm cables

Use tool TC1279-50KIT to make cut-out in side of duct

Side drop-off to 100 x 100mm Ducting-Raceway



TC1279-111KIT



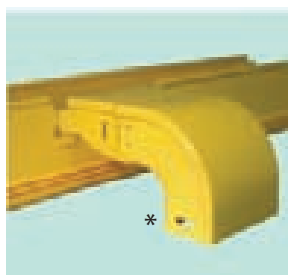
- 1 x Break out
- 1 x Joiner
- 1 x Down Elbow

This drop can fit between 500 - 600, 2.4mm cables

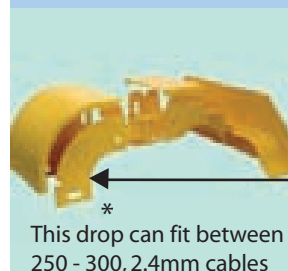
Use tool TC1279-231KIT to make cut-out in side of duct

Side Drop-off Kits

Side drop-off to 100 x 50mm Ducting - Raceway



TC1279-232KIT

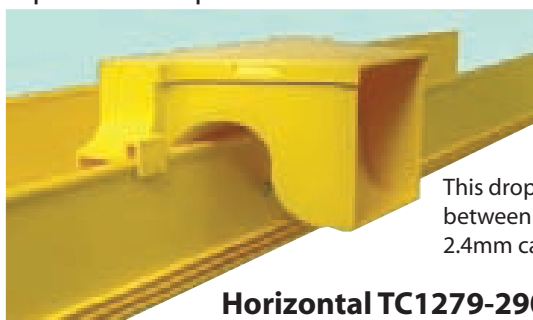


1 x Breakout
1 x Ramp Up
1x Joiner
* Down Elbow not included in Kit.
Required separately
P/N TC1279-236A

This drop can fit between 250 - 300, 2.4mm cables

Use tool TC1279-231KIT to make cut-out in side of duct

Top Outlet drop-off to 100 x 100mm Ducting - Raceway



This drop can fit between 300 - 400, 2.4mm cables

Horizontal TC1279-290A

Cut-out tool not required



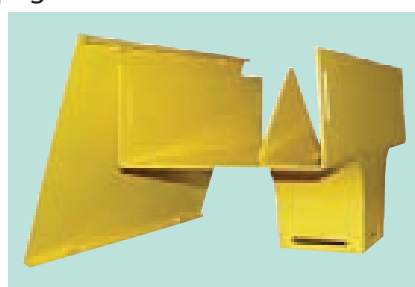
This drop can fit between 300 - 400, 2.4mm cables

Vertical TC1279-307A

Vertical Tees (Downspouts) See page 12



TC1279-63R



TC1279-11A



TC1279-11R

Drop Components



TC1279-212KIT
Radius guide
(Pack of 10) to suit 30, 50 & 100mm slotted duct



TC1279-42
Ramp Up



Outlet trumpet
TC1279-218A 100mm
TC1279-330A 220mm
TC1279-379A 300mm



TC1279-93A
Outlet trumpet
50 x 50mm



TC1279-290A
Top outlet



TC1279-307A
Top outlet



TC1279-290ASL
(With Slots)



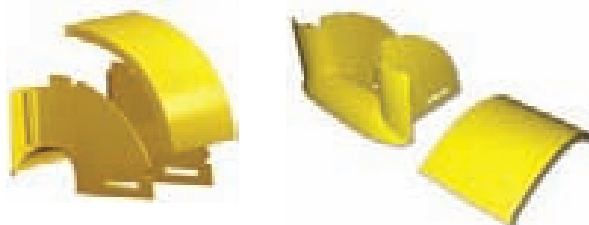
TC1279-307ASL
(With Slots)

Drop-off Solution - High Capacity Duct Outlets

These new Duct breakout kits provide the ideal solution for a high capacity fiber cord outlet. This solution provides a safe and effective means of protecting optic fiber cords and allows for easy routing of cords down into a Telecommunications frame. Duct outlets can be placed anywhere along the duct and minimal time and effort is required to install these outlet components. This solution allows for quicker installation as less cuts are required and is also stronger as the ribs of duct are not cut.

TC1279-452A 100mm x 100mm (4" x 4") 90deg Down Break Out

- ▶▶ Provides a 90 degree, down bend, (and break-out facility), at any point in a 100mm, 220mm or 300mm duct system
- ▶▶ Can accept any standard 220 x 100mm duct item using a joiner
- ▶▶ Kit includes:
TC1279-452 (90deg down body)
TC1279-453 (90deg down Lid)



TC1279-452KIT 100mm x 100mm (4" x 4") 90deg Down Break Out Kit

- ▶▶ Provides a 90 degree, down bend, tube in a 100mm, 220mm or 300mm duct system
- ▶▶ The 75mm ID/88 mm OD tube can carry either: 360 x 2mm cords; 210 x 2.4 mm cords; or 160 x 3mm dia cords maximum
- ▶▶ Kit includes:
1x TC1279-452A
1 x 2mt long Convoluted tube
1 x TC1279-456 Convoluted tube outlet



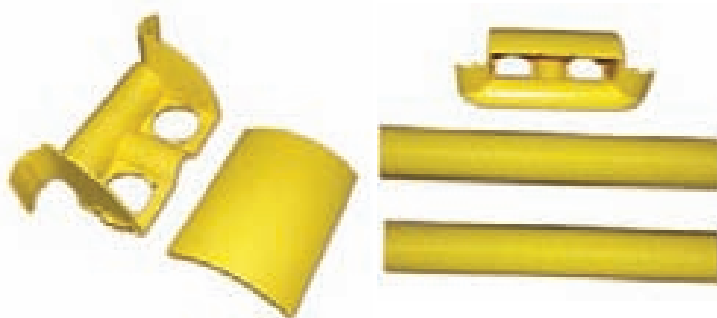
TC1279-454A 220mm x 100mm (8" x 4") 90 Deg Down Break Out

- ▶▶ Provides a 90 degree, down bend, (and break-out facility), at any point, in a 100mm, 220mm or 300mm duct system
- ▶▶ Can accept any standard 220 x 100mm duct item using a joiner
- ▶▶ Kit includes:
TC1279-454 (90deg down body)
TC1279-455 (90deg down Lid)



TC1279-454KIT 220mm x 100mm (8" x 4") 90 Deg Down Break Out Kit

- ▶▶ Provides a 90 degree, down bend, for two large size convoluted tubes, in a 100mm, 220mm or 300mm duct system
- ▶▶ Each 75mm ID tube can carry either: 360 x 2mm cords; 210 x 2.4 mm cords; or 160 x 3mm dia cords, maximum.
- ▶▶ Kit includes:
1x TC1279-454A
2 x 2mt long Convoluted tubes
1 x TC1279-457 Dual Convoluted tube outlet



Outlet Adaptors for High Capacity Drop-off Solution

TC1279-456
Outlet, 100mm x 100mm
duct to single 88mm tube



TC1279-457
Outlet, 220mm x 100mm
duct to dual 88mm tube



Convoluted Tube

Convoluted Tubing for High Capacity Duct Outlets

- TC1279-479 88mm OD, 75mm ID convoluted tube, 1150mm long
- TC1279-480 75mm OD, 60mm ID convoluted tube, 1150mm long
- TC1279-480A 75mm OD, 60mm ID convoluted tube, 1150mm long (with 2 x 75mm long by 88mm dia. adaptor tube)
- TC1279-494KIT Convoluted Tube adaptor kit - 88mm OD to 50mm OD



Low Profile Ducting Solution - 220mm X 50mm (8" X 2")

The low profile duct solution can be used as a bridging adaptor and interconnection between two parallel lengths of duct where ceiling height constraints are an issue.

Straight Duct Lengths

Low profile straight duct lengths require the use of Slotted Joiners which are simple to install.

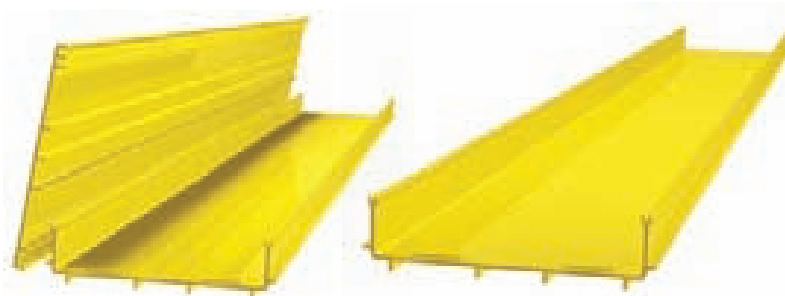
220mm x 50mm (8" x 2") - 2 metre lengths

TC1279-392

Solid Duct only

TC1279-392ASN

Solid Duct with Snap on Cover



Joiner

The joiner is used to connect low height, 220 x 50mm straight ducting to a Top Outlet Assembly, Horizontal Outlet., with which it provides a smooth & strong joint.

Part No - TC1279-482



Outlet

**Part No -
TC1279-461A**



Low Profile Duct System Joining Kit

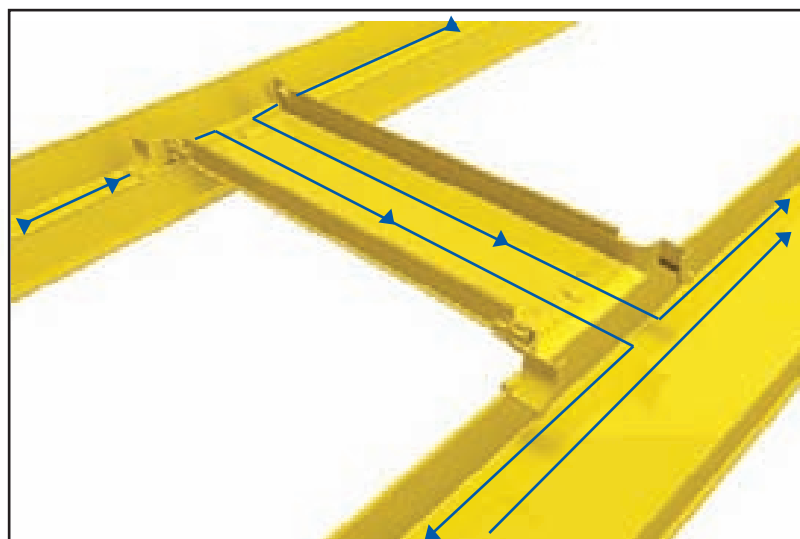
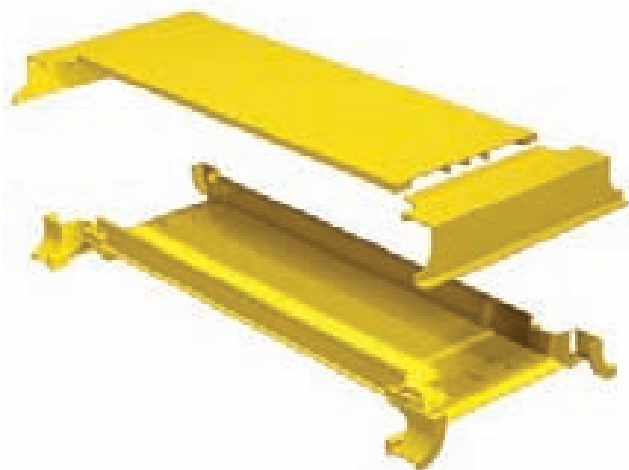
Provides a horizontal exit for optical fiber cords, anywhere along a straight 100mm, 220mm or 300mm duct run. The unit simply fits along the edge of the duct – ie, the side of the duct is not specially prepared or cut. The outlet curve has no ribs so there is nothing to restrict the naturally occurring free flow of optical fiber cords. By altering the length of the connecting 220 x 50mm duct, different offset spacings for duct systems can be made. Easily installed without having to cut or prepare the side of the duct.

Part No. TC1279-461KIT

Kit includes the following:

- 2 x TC1279-461A Over the top outlets
- 2 x TC1279-482 Joiners
- 1 x .66 Metre length of low profile 220mm Duct with cover

*Interconnection between 2 parallel duct lengths
where there are ceiling height constraints*



Mounting Solutions

Metal Mounting Hardware

WBT YellowDuct mounting hardware is used to support the ducting~raceway from different structures. Although the most common components are shown here, many other components that have been developed for specific applications or customer requests are also available. Mounting Systems are also available for retro - fitting to existing installations. Custom components can also be manufactured to your specifications. Please contact your WBT sales office or distributor for assistance.

Metal Mounting Kits

Use / Application



TC1279-104KIT

- 1 x Duct Mounting bracket **100mm**
- 1 x Right Angle bracket
- 1 x Auxiliary base
- 4 x Screws
- 4 x Nuts
- 9 x Washers
- 1 x Hex Screw

TC1279-133KIT

- 1 x Duct Mounting bracket **220mm**
- 1 x Right Angle bracket
- 1 x Auxiliary base
- 4 x Screws
- 4 x Nuts
- 9 x Washers
- 1 x Hex Screw

Provides Vertical & Horizontal mounting flexibility to steel-work or walls

TC1279-161KIT

- 1 x Right angle bracket
- 1 x Straight bracket
- 4 x Screws
- 8 x Washers
- 4 x Nuts
- Kit provides extension to 260mm with 100mm duct mounting bracket



TC1279-183KIT

- 1 x Right angle mounting bracket
- 2 x Nuts
- 3 x Screws
- 3 x Washers
- Kit provides extension to 360mm with 220mm duct mounting bracket

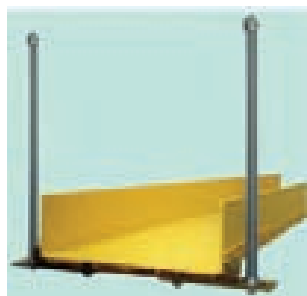


Use / Application



Duct mounting brackets purchased separately.
For more information
See page 19

Suspension Kits



TC1279-297AKIT

- 1 x Duct Mounting bracket 300mm
- 2 x Straight bracket
- 2 x Threaded rod 12mm x 1M
- 12 x Washers
- 8 x Locknuts
- 2 x Bolts
- 2 x Screws
- TC1279-297BKIT**
- Contains 2 X 5/8" threaded rod instead of 12mm

TC1279-297KIT

- 1 x Duct Mounting bracket 300mm
- 2 x Straight brackets
- 3 x Nuts
- 3 x Bolts 1/2" x 13mm
- 5 x washers
- (no threaded rod)

continued next page...

Suspension Kits

continued....



TC1279-106KITA

- 1 x Duct Mounting bracket 220mm
- 1 x Straight bracket
- 2 x Threaded rod 12mm x 400mm
- 8 x Nuts
- 1 x Bolt 12mm x 13mm
- 9 x Washers

TC1279-106KITB

Contains 2 x 16mm threaded rod instead of 12mm

TC1279-107KITA

- 1 x Duct Mounting bracket 100mm
- 1 x Straight bracket
- 2 x Threaded rod 12mm x 400mm
- 8 x Nuts
- 1 x Bolt 12mm x 13mm
- 9 x Washers

TC1279-107KITB

Contains 2 x 16mm threaded rod instead of 12mm

Raised Mounting Kits

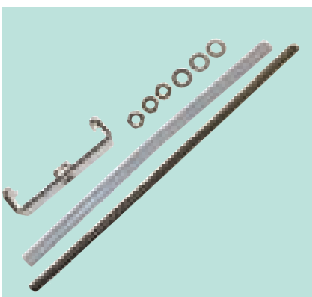
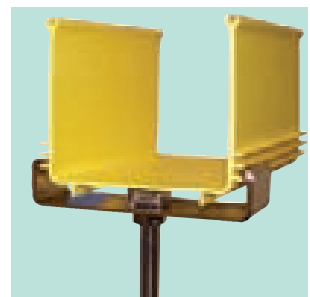


TC1279-129KIT

- 1 x Mounting Plate 30 - 50mm
- 1x 2 part Hook & Loop adhesive
- 1 x Treaded rod 12mm x 400mm
- 4 x Nuts
- 4 x Washers

TC1279-129KIT

This Mounting Kit is used for supporting 30 & 50 mm duct above or below cabinets or iron work.

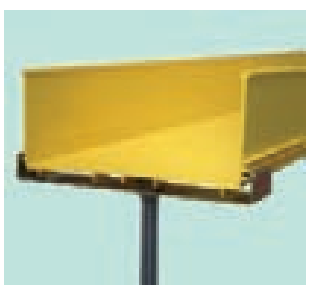


TC1279-14A

- 1 x Duct mounting bracket 100mm
- 1 x Threaded rod 12mm x 400mm
- 3 x Nuts
- 3 x Washers
- 1 x Protective tube

TC1279-14A

This Mounting Kit is used for supporting 100mm duct above or below cabinets or iron work.



TC1279-13A

- 1 x Duct mounting bracket 220mm
- 1 x Threaded rod 12mm x 400mm
- 3 x Nuts
- 3 x Washers
- 1 x Protective tube

TC1279-13A

This Mounting Kit is used for supporting 220 mm duct above or below cabinets or iron work.



TC1279-297BKIT

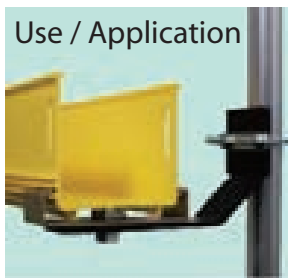
- 1 x Duct mounting bracket 300mm
- 2 x Straight bracket
- 2 x Threaded rod 5/8" UNC x 300mm
- 8 x Nuts 5/8"
- 2 x Nuts 1/2"
- 2 x Bolts 1/2" x 13mm
- 12 x Washers

TC1279-297BKIT

This Mounting Kit is used for supporting 300 mm duct above or below cabinets or iron work.

Underfloor Mounting Kits

Use / Application



TC1279-197KIT

- 1 x Bracket
- 1 x U-Bolt
- 2 x Nuts
- 1 x Flat bar washer



TC1279-274

- 1 x Bracket only

Used to support duct mounting kits from concrete floor in raised floor applications. Can be simply glued or bolted to the floor.

Ladder Rack and Unistrut Mounting Kits



TC1279-155KIT

- 1 x Bracket
 - 1 x Clamp Bracket
 - 2 x Washers, Nuts & Bolts
- Used with 100, 220, 300mm Duct mounting kits.

TC1279-154KIT

- Used with 30 & 50mm Duct mounting kits.

TC1279-370KIT

Large Ladder rack mount Kit. Suitable to be used with 100, 200, 300mm Duct mounting kits.



TC1279-171

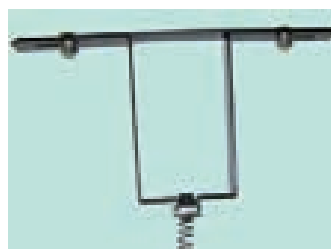
- 1 x Bracket
- Used to attach 100, 200 & 300mm duct mounting kits from any 2" section

TC1279-59

- 1 X Bracket
- Used to attach 100, 200 & 300mm duct mounting kits from any 40mm section

TC1279-152KIT

Dual duct mounting bracket for 100mm & 220mm ducting



Use / Application



Mounting Hardware



Duct Mounting Brackets

- 30mm TC1279-148A
- 50mm TC1279-147A
- 100mm TC1279-16A
- 220mm TC1279-15A
- 300mm TC1279-297A



TC1279-78KIT

- 1 X Bracket with stud screw
- 1 x Hook & Loop adhesive pad(2 Parts)
- 2 x Bolts
- 3 x Nuts
- 3 x Washers



TC1279-130KIT

- 2 X Right angle bracket
- 1 x Bracket & stud
- 1 x Hook & Loop adhesive pad
- 3 x Bolts
- 4 x Nuts
- 5 x Washers



TC1279-303A

- 1 x Side mount bracket
 - 1 x Bolt
 - 1 x Washer
- Bracket provides side and height adjustment for 300, 220 & 100mm duct mounting brackets.

Useful Miscellaneous Items

TC1279-156: UNIVERSAL RADIUS GUIDE:

This guide is a simple means of providing a 30-mm radius guide that eliminates fiber stress through bending.



TC1279-72KIT: PIGTAIL RADIUS GUIDE KIT

The pigtail radius guide provides a 90 degree bend, but the guides are interlocking so that many can be joined to form U turns, circles & spirals - as required. (10 per kit)



TC1279-294: RAMP OFF FOR 300, 200, 100mm DUCT

Provides a safe bending radius for the fibers being dropped off or leaving: 300mm, 220mm or 100mm duct. It does this simply by providing a curved ramp up which fiber is able to form a 30mm radius.



GREY PVC SLOTTED DUCT-

This slotted duct is used for dropping off optical fibers from the overhead ducting system to racks & equipment sub-racks/panels.

**TC1279-55KIT:
50 X 50mm X 2m**

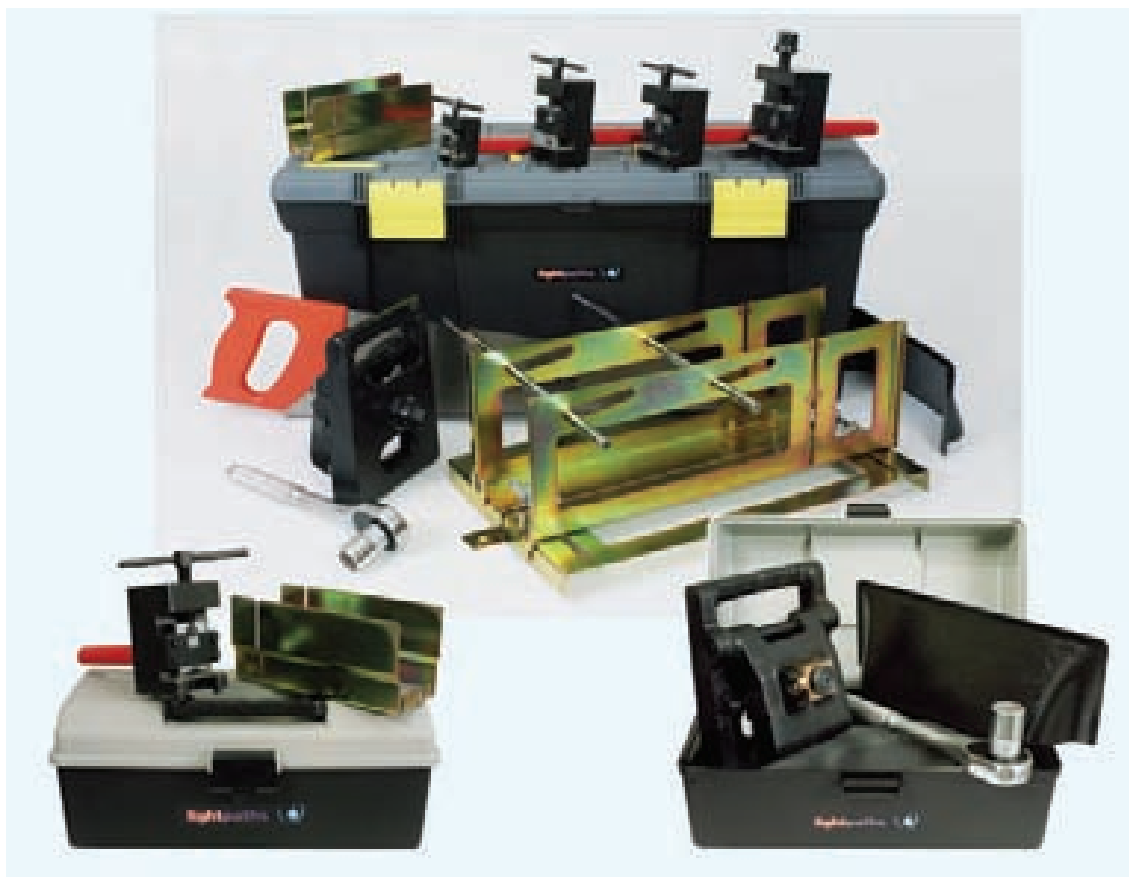
**TC1279-58KIT:
25 X 30mm X 2m**

**TC1279-99KIT:
60 X 40mm X 2m
(not slotted)**



Tooling

Tool Kits and individual tools are available for cutting, slotting and providing cut-outs for drop components.



Tooling

TC1279-500KIT : Optic Fiber Ducting Slotting Tool - Foot Operated

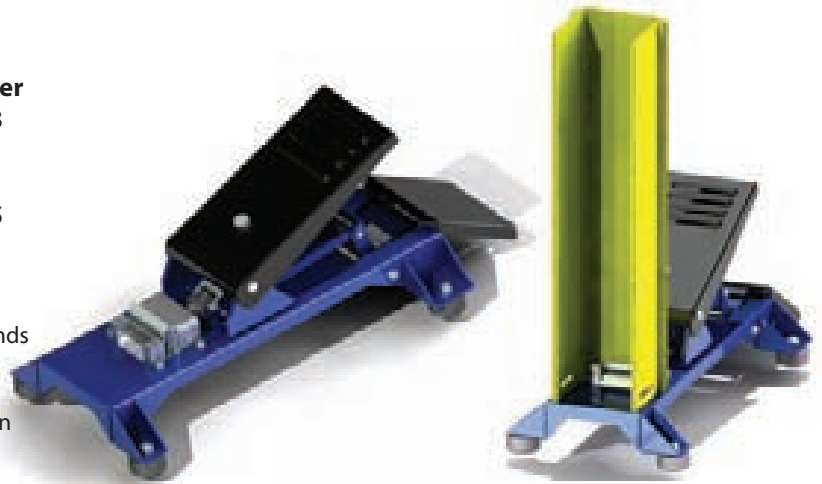
The foot operated duct slotting tool allows installers to improve efficiency with it's no fuss operation and ergonomic design. Take advantage of this new method to safely and easily slot ducting, which will improve the efficiency of your installations and save you and your customer time and money.

Slots the following Duct Sizes

Duct Size Millimeters	Duct Size Inches	Duct Part Number
100mm x 50mm	4" x 2"	TC1279-223
100mm x 100mm	4" x 4"	TC1279-23
220mm x 100mm	8" x 4"	TC1279-21
300mm x 100mm	12" x 4"	TC1279-275

Features & Benefits

- Ducting can be easily aligned and positioned on slotting jig
- Fast and easy to use slotting mechanism which slots in seconds
- Compact, easy to transport unit which only weighs 8kg
- Steady and robust platform
- Ergonomically designed, no stress or heavy manual operation required as it only requires leg power
- Conforms to OH&S standards
- Repeatedly produces accurate slots



TC1279-501KIT : Optic Fiber Ducting Hydraulic Hand Held Slotting Tool

The hand held hydraulic duct slotting tool is a revolutionary design that takes the stress and effort out of slotting duct. Take advantage of this new method of safely and easily slotting ducting, which will improve the efficiency of your installations and save you and your customer time and money.

Slots the following Duct Sizes

Duct Size Millimeters	Duct Size Inches	Duct Part Number
100mm x 50mm	4" x 2"	TC1279-223
100mm x 100mm	4" x 4"	TC1279-23
220mm x 100mm	8" x 4"	TC1279-21
300mm x 100mm	12" x 4"	TC1279-275

Other Available Parts

TC1279-501	100mm Hand Hydraulic Tool
TC1279-501-13S	100mm Hand Hydraulic Tool Head
TC1279-501KIT	100mm Hand Hydraulic Tool Kit with tool box
TC1279-502	50mm Hand Hydraulic Tool
TC1279-502-13S	50mm Hand Hydraulic Tool Head
TC1279-501KIT	50mm Hand Hydraulic Tool Kit with tool box
TC1279-504KIT	100-50mm Hand Hydraulic Tool kit with tool box

Features & Benefits

- No need to exert excessive force since the unit is hydraulic powered
- Safe & easy to use
- Ergonomically designed
- Compact design which is easy to transport and doesn't require excess storage space.
- Saves you time by slotting duct quickly
- Allows you to slot an end of duct in less than 1 minute
- Lightweight, only 2kg
- Repeatedly produces accurate slots
- Slots a variety of duct sizes from 100mm x 50mm up to 300mm x 100mm



Tooling Components

Slotting tools are used to produce slots in the end of a cut length of duct required by the snap together of joiners.



Cut out tools are used to cut notches in the side of the duct to accommodate drop-outs. They are supplied with a fiber spreader to protect previously installed fibers when using the tools.



For Drop-offs & Breakouts

Mitre boxes are used to provide a means of producing an accurate and straight cut on ducting, essential for correct alignment of the slotting tools and joiners



	TC1279-119KIT 30mm cut & slot kit	TC1279-118KIT 50mm cut & slot kit	TC1279-51KIT 100/220mm cut & slot kit
30/50mm mitre box	Yes	Yes	
100/220/300mm mitre box			Yes
Panel saw			Yes
Tool box	Yes	Yes	Yes
30mm slot tool	Yes		
50mm slot tool		Yes	
100/220mm slot tool			Yes
Fiber spreader			



	TC1279-140KIT 30/50mm cut & slot kit	TC1279-50KIT 100/220mm cut & slot kit	TC1279-TKIT Combination Kit	TC1279-231KIT 30, 50,100,220 & 300mm cut out tool kit
30/50mm mitre box	Yes		Yes	
100/220/300mm mitre box			Yes	
Panel saw			Yes	
Tool box	Yes	Yes	Yes	Yes
30mm slot tool	Yes		Yes	
50mm slot tool	Yes		Yes	
100/220mm slot tool			Yes	
100x50mm side slot tool			Yes	
Cut-out tool		Yes	Yes	
Large cut-out tool - 100mm drop				Yes
Wrench		Yes	Yes	
Large Wrench -375mm handle				Yes
Fiber spreader		Yes	Yes	Yes

Other Warren & Brown Products & Services

Warren & Brown can also provide duct layouts, planning and installations and we are happy to provide a free quotation.

Warren & Brown Technologies also specialise in:

- Telecom Exchanges
- Data Centers
- FTTH Products & Solutions

In addition to our YellowDuct ducting raceway system, Warren & Brown also provide many other Fiber Management products and solutions. If you have a fiber management problem, we have a solution...

High Density Optical Frames & Optical Suite Frames



Splice / Patch Fiber Management Trays



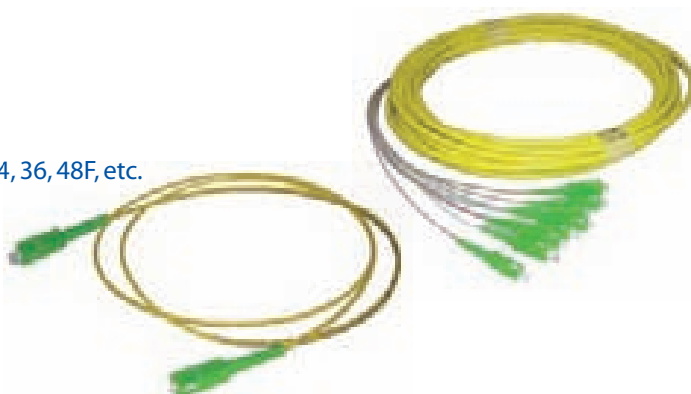
Optical Fiber Cable Assemblies

Features and Benefits

Warren & Brown can custom make your optical fiber patchcords or pigtails to your specific requirements.

Available in the following variations:

- ▶ Any connector type - FC, LC, SC, SC/A, ST, DIN, LC/A etc.
- ▶ Any cord length from 0.5 metres upwards
- ▶ Any cord size - 900um, 2mm, 2.4mm, 3mm
- ▶ Any range of fibers - Single fiber, Duplex, 4F, 6F, 8F, 12F, 16F, 24, 36, 48F, etc.
- ▶ Singlemode G657B fiber (MBR 15-20mm)
- ▶ Single cord safe working load is 100N
- ▶ Indoor or Outdoor cable
- ▶ Fast production time



FTTH Products & Solutions

Warren & Brown Technologies are also at the forefront in developing FTTH (Fiber to the Home) products & solutions. Our experienced engineering and sales teams can assist in tailoring the ideal solution for you. WBT also supply Fibre Distribution Hubs, Wall boxes, Closures, couplers, splitters, thru adaptors, cable assemblies, etc, as well as many other components suitable for FTTH applications.

FTTH products



Passive Fiber Connectivity - Couplers, Attenuators, Splitters, Thru Adaptors etc



Datacentre Solutions

WBT also have a range of Data Centre Products and solutions including MPO Cassette's, subracks and patchcords. Please contact the WBT sales team for further information.



APC	Angled physical contact connector with an 8 degree end angle on ferrule. Has high value of RL
Attenuation	The loss in dB of a splice or in dB/km of an optical fiber cable
Attenuator	An item inserted in-line, to reduce the strength of optical signal
Bare Fiber Adaptor	Used to connect an instrument, with a low IL, to a fiber for testing
Bending loss	Loss of optical fiber signal strength at bends smaller than the MBR
BER	Bit error rate. A measure of acceptable optical signal transmission, eg. 1×10^{-9} minimum
Buffered fiber	A 900 micron fiber, usually in an internal cable
BPON & GPON	Advanced PON's
Core	A 9 micron dia central part of a single mode fiber, that carries the optical signal, or 50 micron for a multi-mode fibre
Cladding	The 125 micron dia outer part of an optical fiber, that assists in carrying the optical signal
Cleaving	The accurate end preparation of a fiber, prior to fusion splicing
Connector	A precision mechanical device, that connects fibers together at a patch panel; eg FC, ST, ST, LC, etc
Coupler	A precision, passive, optical device to join or split light signals along an optical fiber route
Cord	A tight buffered 900 micron fiber item, with strength member and protective sheath, used to make pigtails and patchcords
dB	A decibel is a measure of losses or attenuation of optical fibre components
Detector	Converts optical signal to electrical signal
Dispersion	A measure causing signal degradation in multi-mode fiber, that limits bandwidth and transmission distance
Dispersion shifted fiber	A single mode fiber, that has zero dispersion at the signal wavelength, eg. 1550nm
Ducting system	A system of items for feeding cords in a CO or Exchange, whilst maintaining the MBR under all/every condition
Downstream transmission	Transmission from a CO or Exchange to many Customers simultaneously, eg. 32 on a single fiber in a PON
Duplex Cord	A patchcord or pigtail with two tight buffered fibers
FC connector	Screw to lock connector type with a 2.5mm dia zirconia ferrule
Ferrule	The precision mating part of a connector, usually made of ceramic, zirconia
Fiber	Transmission media for laser light. Can be single-mode or multi-mode types
FR	Fire retardant property of a duct system
Fusion Splicing	Joining of two fibers together, using an electric arc in a splicing machine
GHz	Gigahertz, one billion hertz
Gigabit	Transmission of one billion bits per second, Gbps
Hertz (Hz)	A measure of frequency in cycles per second
Index of refraction	The ratio between speed of light in a vacuum and another media, eg glass
Index matching material	A special compound sometimes used to improve the optical signal performance at the connection point between two fibres
Insertion loss	The signal loss in dB at the connection between two connectors
Jacket (Sheath)	The outer skin of a cord or cable, usually PE or PVC
Kilometre	1000 metres
Laser	A transmitter used to generate a narrowband optical fiber signal
LC connector	Push to lock connector type with a 1.25mm dia zirconia ferrule
Loose tube	A plastic tube used to house and protect either 6 or 12 fibres in a cable
LSZH	Low smoke, zero halogen property of a duct system
MBR	Minimum bending radius of a fiber, eg. 30mm
Mechanical splice	A precision unit that can join two fibers together, and make a low loss connection
MHz	Megahertz, one million hertz
Micron	1×10^{-6} metres (μm) Used as a measure of optical fiber
Multi-mode	An optical fiber system, with limited range, due to modal losses
Multiplexing	The combination of two or more signals, onto a single fibre
Nanometre	1×10^{-9} metres. Used as a measure of wavelengths, eg. 1310nm and 1550nm
Optical amplifier	A component that can amplify an optical signal on a fiber, to extend the transmission distance
OTDR	An instrument used to look along an installed fiber route. Used to identify high loss points. Used in commissioning and fault finding
PC	Physical contact. A standard polish finish for connector ferrules
Patchcord	A cord length with a connector at each end
Patch panel	A connection point in a fiber circuit. Can be opened for fault finding, testing or service restoration
Pigtail	A cord length with a connector at one end
PON	Passive optical network, with splitters. A single fiber can feed typically 32 customers from a CO or Exchange, using two way transmission, ie. upstream and downstream simultaneously
Reflection	The reflected return of part of the incoming light beam at a connectors end face
Refraction	The deflection of a light beam in the core/cladding part of a fiber
Return Loss	A measure in dB of the reflected part of a light signal. RL for UPC polish is -40 dB; and for APC polish -55 dB
SC connector	Push to lock connector type with a 2.5mm dia zirconia ferrule
Simplex cord	A cord with one tight buffered fiber
Singlemode	A fiber that supports one mode (or wavelength) of transmission, with no modal losses. Achieves high capacity, long transmission range
Splicing	See fusion splicing
Splitter	A passive optical device that splits up a single optical signal into several, eg 2, 16, 32, etc
Through Adaptor	Used to join two connectors together at a patch panel
UPC	Ultra physical contact. A high standard polish finish for connector ferrules
Upstream transmission	Transmission from a Customer to a CO or Exchange
Waterpeak loss	Part of the spectral attenuation verses wavelength curve, where a high loss occurs. If removed, fiber performance improves, eg. ITU spec G652D, with no water peak
Wavelength	Optical fibre wavelengths sent over an optical fiber eg 850nm, 1310nm, 1550nm
WDM	Wavelegth division multiplexing. Transmitting many optical signals down a single fiber simultaneously, eg 16 or 48, etc
WWDM	Wide (band) WDM

YellowDuct

Fiber Management Made Easy ▶▶

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