



FIBER OPTIC CABLE BLOWING METHOD

An Efficient Method

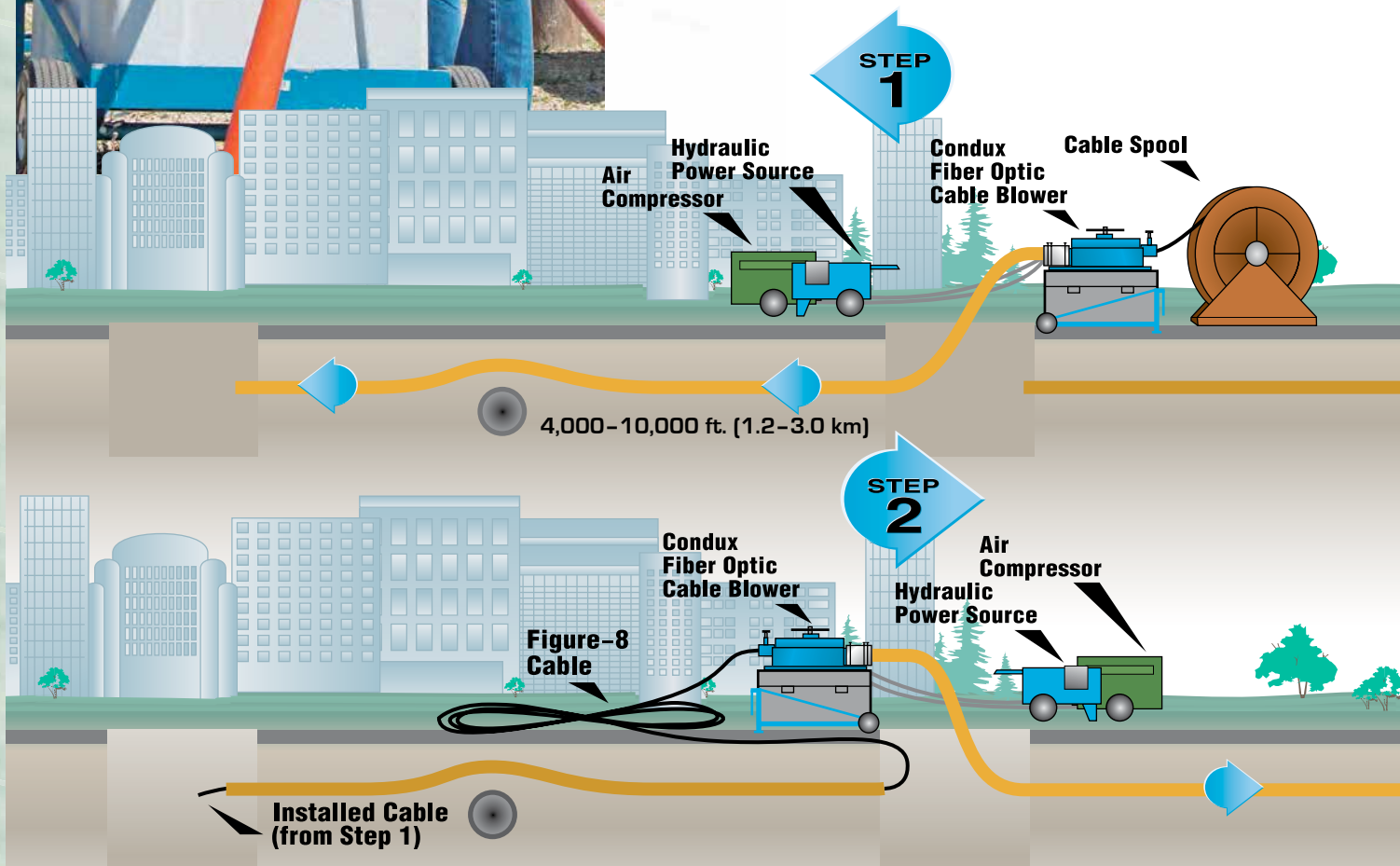
Fiber optic cable blowing is one of the most efficient and safe means of installing fiber optic cable. A pressurized blowing system uses two forces to install fiber optic cable. A pulling force combines with a pushing force to cause the cable to travel through the duct like air. Today's fiber optic cable installations benefit from the pressurized blowing system because it provides greater installation speeds with less stress than traditional cable pulling.

The cable blower unit utilizes a hydraulic power system and an air compressor to generate the desired push and pull forces. Working together, this dual power supply provides greater blowing power with lower air consumption. Controls and gauges on the cable blower allow the operator to monitor the forces being exerted on the cable. The operator can make adjustments to make sure the forces being exerted on the cable are working with one another, not against one another.

Blowing minimizes the stress placed on cable during installation. Because the cable blower provides both pulling and pushing force, stress is balanced. For example, at 135 psi (9.3 bar) in 2 inch (51 mm) duct only 430 lbs (1,913 N) of pulling force is generated.



FIBER CABLE INSTALLATION



Blowing vs. Pulling

Blowing cable is different from pulling cable in several ways. During cable pulling, the cable is kept taut and only pull force is applied. It travels in a straight line until a bend or curve changes its path. The cable ultimately rubs on each of the bends or curves, creating friction. As more pulling force is added to counteract the friction, additional stress is added to the cable.

Compared to a pulling application, blowing cable is faster and puts the cable under less stress.

Through cable blowing, contractors are able to install more cable per day with less manpower. This means increased productivity and decreased cost.

How To: The Typical Process

The typical cable blowing process consists of several steps. **First**, the duct integrity is checked. It is pressurized to check for leaks. In order to ensure a successful installation, the duct must be airtight and free of obstruction. Then a small amount of lubricant is poured in the duct and a foam carrier is blown through the run, confirming its integrity.

Second, the cable is prepared for installation. A cable carrier is attached to the end of the fiber optic cable. Corresponding size cable carriers are available to match the specific duct ID. The cable is fed through the cable blower and into the duct.

Third, the duct is lubricated. Lubricant is added in front of the cable carrier and behind the cable carrier.

Fourth, the blowing process begins. Pressure (compressed air) is applied to the duct behind the cable carrier. As the pressure tries to equalize, it seeks out the path of least resistance and creates a pushing force on the cable carrier, causing forward motion. The moving cable carrier, in turn, exerts a pulling force on the cable and begins to move it through the duct.

Meanwhile, an additional pushing force is applied to the cable by a hydraulic powered tractor drive on the cable blower. Use of a hydraulic tractor drive reduces air consumption requirements from the air compressor. Plus, the push force from the tractor drive provides cable slack, reduces back tension and keeps the cable loose and flexible. Friction and resistance are then reduced and the cable can travel freely through the duct work.



FIBER CABLE
INSTALLATION



4,000-10,000 ft. (1.2-3.0 km)



FIBER OPTIC CABLE BLOWER



Fiber Optic Cable Blower

The Condux Gulfstream™ 400 Deluxe Fiber Optic Cable Blower is ideal for “Last Mile” Fiber Installations

As a leader in the manufacture of cable installation tools and equipment, Condux offers a superior Fiber Optic Cable Blower that is compact and lightweight, making it ideally suited for your most difficult job sites and “last mile” fiber installations. An updated design has increased portability and made operation easier than ever.

Fast

Install up to 300 feet of fiber optic cable per minute (90 m/min). The cable travels at the same speed as the air! A carrier is always attached to the front of the cable. Compressed air propels the carrier and cable through the air-tight sealed duct. And, because air flow and tractor drive speed can be adjusted, you can install fiber at the rate which best suits any application.

Total Control

The Condux Gulfstream 400 Deluxe Fiber Optic Cable Blower features longer tractor feed grip area for less stress on the cable, and a manual cylinder on the tractor feed to better control down pressure. Condux’s patented traction control system shuts down the blower when problems with cable slippage or duct blockage are detected, adding safety to every job and preventing costly cable damage.

A speed and distance counter with LCD read-out, as well as convenient hydraulic and pneumatic controls, come standard with the Condux Fiber Optic Cable Blower. Blowers equipped with the Advanced Electronic Control System will shut down if slippage, over-speed or cable stoppage is detected.

Versatility

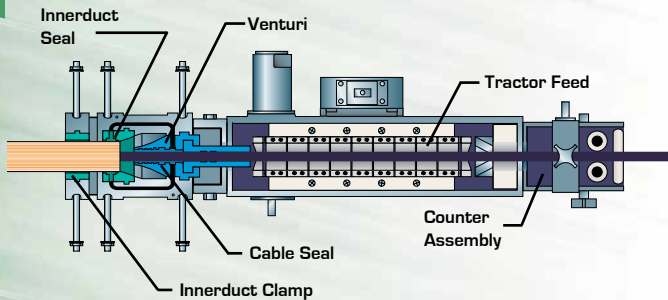
The Condux Gulfstream 400 Deluxe Fiber Optic Cable Blower operates efficiently with most common combinations of cable and innerduct sizes. The Condux Gulfstream 400 Deluxe Fiber Optic Cable Blower is designed for the installation of fiber optic cables with diameters from 0.23" (5.8 mm) to 1.13" (28.7 mm) into micro duct 10 mm to 18 mm and regular innerduct 1/2" (13 mm) to 2" (51 mm) with metric sizes available.

The correct size cable seals and venturi must be determined for the cable being installed. Also necessary are the correct size innerduct seals, clamps and carrier for the innerduct being occupied.

Use the charts on page 120 to determine the correct size components for your specific cable and innerduct installation project. Use the size reference to ensure the correct selection each time the Cable Blower is used.



FIBER CABLE INSTALLATION



Superior Service & Support

The Condux Fiber Optic Cable Blower is precision manufactured in the USA by Condux International, Inc. Over four decades of technical experience and superior customer service is behind every product sold.



Smart Design, Easy to Operate

Convenient tilting of the Condux Gulfstream 400 Deluxe Fiber Optic Cable Blower for ease of pouring in lubricant. Easily install cable into rollers, then close and you are ready to start.

Hydraulic & pneumatic controls are ergonomically designed and conveniently located. No special maintenance is required.



Lightweight & Portable, Everything's Inside

The Condux Gulfstream 400 Deluxe Fiber Optic Cable Blower is extremely easy to handle and transport. The blower and all accessories including hydraulic hoses, cable and conduit packs and seal kits conveniently fit into a lightweight job box with wheels.



FIBER CABLE
INSTALLATION



Belt Tractor Drive

Single belt tractor drive provides for smooth and quiet operation. The belt can be easily removed and replaced making maintenance fast and simple.



Advanced Electronic Controls

Standard system monitors and displays the cable and tractor drive speeds. Will automatically shut off the blower in these conditions:

- Over pressure limit
- Slippage
- Over-speed
- Cable stoppage

Part No.	Description
08781020	Electronic Control Box
08781022	Electronic Control Box & Transducer Update
08781023	Transducer

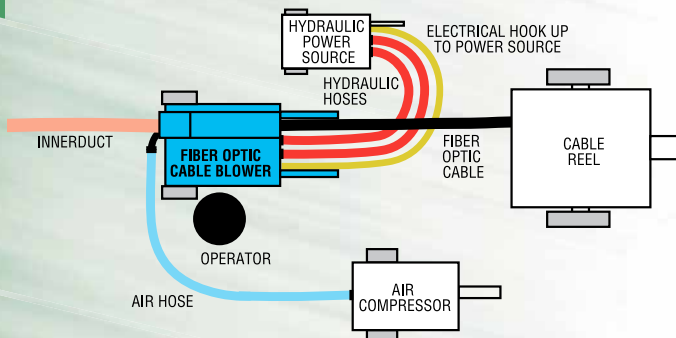


Hinged Air Block & Conduit Clamp

The Condux Fiber Optic Cable Blower features a hinged air block and a hinged conduit clamp that are easily secured and opened with the use of a ratchet.

Dual Power System

Designed to operate with two power supplies that work in tandem in order to produce the most steady, efficient and reliable power to blow cable. A hydraulically-powered tractor drive supplements the pressurized air force, thus decreasing the cfm requirements of the air compressor. This means greater cable blowing efficiency using a much smaller air compressor.



The Condux Gulfstream™ 400 Deluxe Fiber Optic Cable Blower is easy to order. The base unit comes complete with a job box, hydraulic hoses and everything listed below in the "Common Parts Package." Complete the order by specifying the cable pack(s) and duct pack(s) necessary to meet your exact job requirements. A full description of the cable and duct packs is on page 120. You may order additional cable and duct packs at any time.

Part No.	Description
08782000	Fiber Optic Cable Blower
08782010	Fiber Optic Cable Blower Package 1A (includes Cable Packs #1-4, and Duct Packs #2-5)
08782008	Fiber Optic Cable Blower Package 1B (includes Cable Packs #1-4, and Duct Packs #4, 5, 6)

Non Electric Version (No Electronic Control Box or Sensors)

Part No.	Description
08782040	Fiber Optic Cable Blower
08782042	Fiber Optic Cable Blower Package 1A (includes Cable Packs #1-4, and Duct Packs #2-5)
08782044	Fiber Optic Cable Blower Package 1B (includes Cable Packs #1-4, and Duct Packs #4, 5, 6)

Select your Cable Pack(s): (minimum one required)

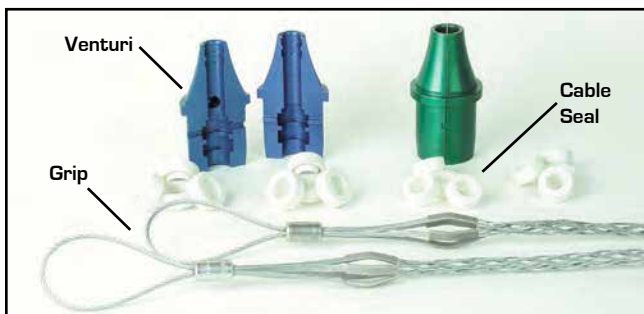
Part No.	Description
08780393	Cable Pack #1 – 0.23-0.34 in (5.8-8.8 mm)
08780394	Cable Pack #2 – 0.35-0.60 in (8.9-15.2 mm)
08780395	Cable Pack #3 – 0.61-0.85 in (15.3-21.6 mm)
08780396	Cable Pack #4 – 0.86-1.13 in (21.7-28.7 mm)
08781117	Cable Pack #5 – 10.4 x 5.5 mm (Nylatron Venturi for flat fiber cables)
08781118	Cable Pack #6 – 15.2 x 6.7 mm (Nylatron Venturi for flat fiber cables)

Select your Duct Pack(s): (minimum one required)

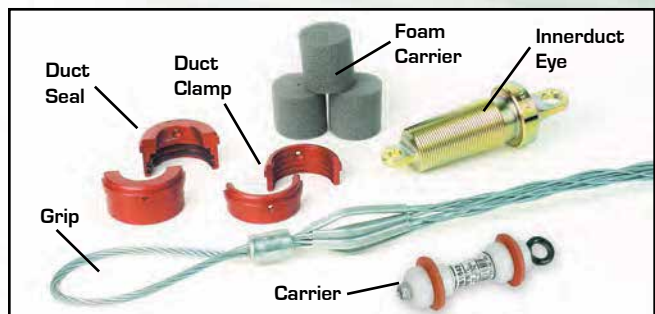
Part No.	Description
08780795	Duct Pack #1 – .5" SDR 11/13.5
08780680	Duct Pack #2 – .75" SDR 11/13.5
08780386	Duct Pack #3 – 1" SDR 11/13.5
08780392	Duct Pack #4 – 1.25" SDR 11/13.5
08780397	Duct Pack #5 – 1.5" SDR 11/13.5
08780930	Duct Pack #6 – 2" SDR 11/13.5
08781120	Duct Pack #7 – 20 mm
08780240	Duct Pack #8 – 25 mm
08780385	Duct Pack #9 – 32 mm
08780387	Duct Pack #10 – 36 mm
08780388	Duct Pack #11 – 37 mm
08780389	Duct Pack #12 – 1.25" TRUE
08780390	Duct Pack #13 – 40 mm
08780391	Duct Pack #14 – 42 mm
08780545	Duct Pack #15 – 44 mm
08780575	Duct Pack #16 – 50 mm

Cable and Duct Packs

Cable Packs include Cable Grips (for end of cable), Pneumatic Venturies and Cable Seals. See page 120 for ordering information.



Duct Packs include Cable Grip (for end of inner-duct), Cable Carrier, Innerduct Clamps, Innerduct Seals, Innerduct Pulling Eye & Foam Carriers. See page 120 for ordering information.



Condux Gulfstream™ 400 Deluxe Fiber Optic Cable Blower shown with: Common Parts Package (included with all units).



Common Parts Package

Common Parts Package (included with all blower units) includes:

Part Number	Description
02290222	Small Case w/foam Insert
02284600	Small Divided Case w/Parts Label
08780126	O-Ring Seal Kit
02286416	2 Pin Extension Cord
08230800	Canvas Bag
08780223	Venturi Air Plug (Seal Disk)
08780424	Capscrew Set (12-M04-07)
08017000	5/8" x 600 lb Swivel (16 mm x 2,669 N)
08761248	Power Cord Assembly Lighter Plug
08780384	20' (6 m) Hydraulic Hose Set
02289620	Wrench, 3/4"
02290168	Standard & Metric Hex Key Set
02284000	3/8" Drive Ratchet
02290520	3/4" Deep Well Socket

FIBER CABLE
INSTALLATION



FIBER OPTIC CABLE BLOWER

Cable Packs: Gulfstream™ 400

PACK	CABLE PACK		VENTURI		CABLE SEAL		CABLE GRIP	
	Cable OD	P/N	Cable OD	P/N	Cable OD	P/N	Cable OD	P/N
1	0.23-0.34 (5.8-8.8)	08780393 Pack #1	0.23-0.34 (5.8-8.8)	08780281	0.23-0.28 (5.8-7.2)	08780406	0.21-0.35 (5.3-8.9)	08643754 033-29-1194
					0.29-0.34 (7.3-8.8)	08780407		
2	0.35-0.60 (8.9-15.2)	08780394 Pack #2	0.35-0.48 (8.9-12.2)	08781115	0.35-0.42 (8.9-10.7)	08761424	0.32-0.48 (8.1-12.2)	08643755 033-29-1195
					0.43-0.48 (10.8-12.2)	08761425		
			0.49-0.60 (12.3-15.2)	08781116	0.49-0.55 (12.3-14.0)	08761426	0.42-0.61 (10.7-15.5)	08643756 033-29-1196
					0.56-0.60 (14.1-15.2)	08761427		
3	0.61-0.85 (15.3-21.6)	08780395 Pack #3	0.61-0.73 (15.3-18.5)	08780284	0.61-0.67 (15.3-17.0)	08761428	0.53-0.74 (13.5-18.8)	08643757 033-29-1197
					0.68-0.73 (17.1-18.5)	08761429		
			0.74-0.85 (18.6-21.6)	08780285	0.74-0.79 (18.6-20.1)	08761430	0.64-0.87 (16.3-22.1)	08643758 033-29-1198
					0.80-0.85 (20.2-21.6)	08761431		
4	0.86-1.13 (21.7-28.7)	08780396 Pack #4	0.86-0.97 (21.7-24.6)	08780286	0.86-0.92 (21.7-23.4)	08761432	0.75-1.00 (19.1-25.4)	08643759 033-29-1199
					0.93-0.97 (23.5-24.6)	08761433		
			0.98-1.13 (24.7-28.7)	08780446	0.98-1.04 (24.7-26.4)	08761434	1.00-1.24 (25.4-31.5)	08643137 033-03-013
					1.05-1.13 (26.5-28.7)	08761435		
5	10.4 x 5.5 mm	08781117 Pack #5	(Nylatron Venturi for flat fiber cables)					
6	15.2 x 6.7 mm	08781118 Pack #6	(Nylatron Venturi for flat fiber cables)					

Duct Packs: Gulfstream™ 400 & Mini-Blower/Pusher

PACK	DUCT PACK		DUCT CLAMP		DUCT SEAL		CARRIER		FOAM CARRIER		CABLE GRIP		INNERDUCT EYE P/N and ID Range
	Duct Size	P/N	Duct OD	P/N	Duct OD	P/N	Carrier	P/N	Carrier OD	P/N	Duct OD	P/N	
1	1/2" SDR 11-13.5	08780795 Pack #1	0.84 (21.30)	08780791	0.84 (21.30)	08780786	0.688 (17.50)	08780793	0.75 (19.0)	08078300	.75-.99 (19-25)	08643131 033-03-012	08761840 .71-.87 (18-22)
2	3/4" SDR 11-13.5	08780680 Pack #2	1.050 (26.6)	08780682	1.050 (26.6)	08780685	0.75 (19.0)	08780690	0.75 (19.0)	08078300	1.00-1.24 (25.4-31.5)	08643137 033-03-013	08761840 .71-.87 (18-22)
3	1" SDR 11/13.5	08780386 Pack #3	1.315 (33.4)	08780369	1.315 (33.4)	08780307	1.121 (28.5)	08761250	1.25 (31.8)	08761439	1.00-1.24 (25.4-31.5)	08643137 033-03-013	08761842 1.06-1.43 (27-37)
4	1.25" SDR 11/13.5	08780392 Pack #4	1.660 (42.2)	08780375	1.660 (42.2)	08780051	1.414 (35.9)	08761255	1.50 (38.1)	08761440	1.50-1.99 (38.1-50.5)	08643149 033-03-016	08761842 1.06-1.43 (27-37)
5	1.5" SDR 11/13.5	08780397 Pack #5	1.900 (48.3)	08780404	1.900 (48.3)	08780398	1.618 (41.1)	08761260	1.75 (44.5)	08761441	1.50-1.99 (38.1-50.5)	08643149 033-03-016	08761844 1.37-1.68 (35-43)
6	2" SDR 11/13.5	08780930 Pack #6	—	—	—	—	2.023 (51.4)	08761265	2.00 (50.8)	08761442	2.00-2.49 (50.8-63.2)	08643155 033-03-017	08761846 1.37-1.68 (35-43)
7	20 mm	08781120 Pack #7	0.787 (20.0)	08781122	0.787 (20.0)	08781121	0.688 (17.5)	08780793	1.00 (25.4)	08761444	.75-.99 (19.0-25.1)	08643131 033-03-012	08914007 .551-.813 (14-20.65)
8	25 mm	08780240 Pack #8	0.984 (25.0)	08780099	0.984 (25.0)	08780134	0.787 (20.0)	08780230	1.25 (31.8)	08761439	1.00-1.24 (25.4-31.5)	08643137 033-03-013	08761840 .71-.89 (18-22)
9	32 mm	08780385 Pack #9	1.260 (32.0)	08780368	1.260 (32.0)	08780306	1.063 (27.0)	08761560	1.25 (31.8)	08761439	1.25-1.49 (31.8-37.8)	08643143 033-03-015	08761842 1.06-1.43 (27-37)
10	36 mm	08780387 Pack #10	1.417 (36.0)	08780370	1.417 (36.0)	08780308	1.181 (30.0) 1.220 (31.0)	08761643 08761555	1.25 (31.8)	08761439	1.25-1.49 (31.8-37.8)	08643143 033-03-015	08761842 1.06-1.43 (27-37)
11	37 mm	08780388 Pack #11	1.457 (37.0)	08780371	1.457 (37.0)	08780309	1.220 (31.0)	08761555	1.25 (31.8)	08761439	1.25-1.49 (31.8-37.8)	08643143 033-03-015	08761842 1.06-1.43 (27-37)
12	1.25" TRUE	08780389 Pack #12	1.500 (38.1)	08780372	1.500 (38.1)	08780333	1.250 (31.7)	08761670	1.50 (38.1)	08761440	1.25-1.49 (31.8-37.8)	08643143 033-03-015	08761842 1.06-1.43 (27-37)
13	40 mm	08780390 Pack #13	1.575 (40.0)	08780373	1.575 (40.0)	08780334	1.299 (33.0)	08761525	1.50 (38.1)	08761440	1.50-1.99 (38.1-50.5)	08643149 033-03-016	08761842 1.06-1.43 (27-37)
14	42 mm	08780391 Pack #14	1.653 (42.0)	08780374	1.653 (42.0)	08780335	1.378 (35.0)	08761660	1.50 (38.1)	08761440	1.50-1.99 (38.1-50.5)	08643149 033-03-016	08761842 1.06-1.43 (27-37)
15	44 mm	08780545 Pack #15	1.732 (44.0)	08780546	1.732 (44.0)	08780547	1.496 (38.0)	08761786	1.50 (38.1)	08761440	1.50-1.99 (38.1-50.5)	08643149 033-03-016	08761842 1.06-1.43 (27-37)
16	50 mm	08780575 Pack #16	1.969 (50.0)	08780435	1.969 (50.0)	08780431	1.606 (40.0)	08761579	2.00 (50.8)	08761442	1.50-1.99 (38.1-50.5)	08643149 033-03-016	08761844 1.37-1.68 (35-43)

FIBER CABLE
INSTALLATION

Compressed Air Cooler

Extreme heat can inhibit fiber optic cable installation and damage fiber optic cable and duct. When cable blowing, air is compressed and heat is generated. For example, air that enters a compressor at 100° F (37° C) exits the compressor at 350° F (176° C). At this temperature, fiber optic cable jacket and duct softening can occur. Heat problems can also occur if the duct run is exposed to direct sunlight. The Condux Compressed Air Cooler can help prevent heat damage to fiber optic cable and duct during cable blowing operations.

The Condux Compressed Air Cooler cools compressed air from a maximum temperature of 350° F (176° C), to within 20° F (11° C) of the ambient temperature. For example, if the ambient temperature is 100° F (37° C), air from the air compressor enters the air cooler at 350° F (176° C). That air will leave the cooler at approximately 120° F (49° C). Cooling the air reduces the chances of heat damage to the cable and duct.

The Condux Compressed Air Cooler also removes moisture from the air. Water from humid air can dilute cable blowing lubricant and collect in the duct run.

Use of the Condux Compressed Air Cooler is recommended when ambient air temperatures reach 90° F (32° C) or more and/or the duct is exposed to direct sunlight.

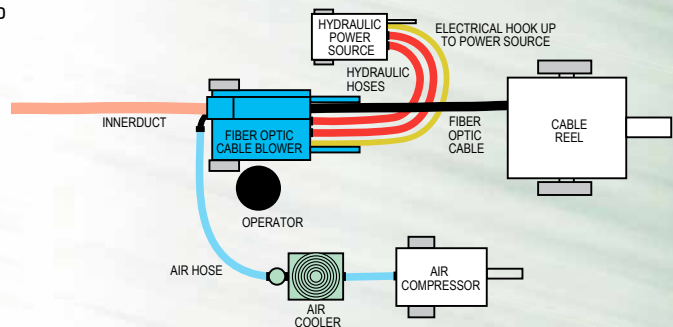


Minimum ambient operating temperature: 35° F (1° C)

Maximum inlet operating temperature: 350° F (176° C)

Maximum operating pressure: 250 psi (17 bar)

Part Number	Description
08761700	Air Cooler



How Much Air?

Pressure

During pressurized blowing applications, as the duct size increases and the pressure remains constant, the pulling force increases geometrically. When used properly, the amount of pulling force placed on the cable by the Condux Fiber Optic Cable Blower cable carrier remains below the cable's recommended maximum pulling tension for two reasons. First, the blower is designed for use with a maximum 2 inch (51 mm) diameter duct. Second, the maximum amount of pressure applied by the blower during installation never exceeds 150 psi (10.3 bar).

At that pressure, with a 2 inch (51 mm) duct, a maximum pulling tension of 482 lbs. (2,145 N) can be generated on the cable by the cable carrier. This is well below the 600 lbs. (2,668 N) recommended maximum pulling tension for most cable types. Ducts smaller than 2 inches (51 mm) or pressures lower than 150 psi (10.3 bar) will result in lower maximum pulling tensions.

Flow

Duct size also determines the compressor flow needed for proper installation. For innerducts from 1-1¼ inches (25-31 mm) in diameter, a 175-275 SCFM (5-8 cu meters/min) compressor is recommended. For innerducts from 1½-2 inches (28-51 mm) in diameter, a 275-375 SCFM (8-11 cu meters/min) compressor is recommended. Compressor flow should be doubled if the distance exceeds 6,000-8,000 feet (1.8-2.4 km).



MICRO DUCT/FIBER BLOWER ACCESSORIES

CONDEX



Multiple Micro Duct Installation Kits

Condux Multiple Micro Duct Installation Kits allow you to install up to 5-10/8 micro ducts, 4-12/10 micro ducts or 4-12.7 micro ducts into an existing innerduct, when used with the Condux Gulfstream™ 400 Deluxe Fiber Optic Cable Blower.

Part Number	Description
08780710	10/8 Multiple Micro Duct Installation Kit
08780712	12/10 Multiple Micro Duct Installation Kit
08780770	12.7 Multiple Micro Duct Installation Kit
08780723	Flat Belt for Flat Fiber



10/8 Kit		
Part No.	Qty	Description
08645705	1	(1) Cable Grip
08780720	1	(1) Lower Belt
08780721	1	(1) Upper Belt
08780724	1	(1) Rear Guide Assembly
08780735	1	(1) 5-Hole Venturi
08780739	1	(3) Venturi Plugs
08780740	1	(5) Duct-Fill Plugs
08780741	1	(5) Duct-Cap Plugs
08780742	1	(1) Rear Guide
08780748	1	(5) Proofing Balls

12/10 Kit		
Part No.	Qty	Description
08645705	1	(1) Cable Grip
08780722	1	(1) Lower Belt
08780722	1	(1) Upper Belt
08780724	1	(1) Rear Guide Assembly
08780725	1	(1) 4-Hole Venturi
08780729	1	(3) Venturi Plugs
08780730	1	(4) Duct-Fill Plugs
08780731	1	(4) Duct-Cap Plugs
08780732	1	(1) Rear Guide
08780750	1	(5) Proofing Balls

12.7 Kit		
Part No.	Qty	Description
08645705	1	(1) Cable Grip
08780722	1	(1) Lower Belt
08780722	1	(1) Upper Belt
08780724	1	(1) Rear Guide Assembly
08780732	1	(1) Rear Guide
08780750	1	(5) Proofing Balls
08780771	1	(1) 4-Hole Venturi
08780772	1	(3) Venturi Plugs
08780774	1	(4) Duct-Cap Plugs
08780776	1	(4) Duct-Fill Plugs

NOTE: [] Quantities included per set.



Kit Includes:
Pressure gauge
Universal claw adapter

Micro Duct Pressure Gauge Kit

Use the Micro Duct Pressure Gauge Kit in conjunction with Air Valve Plugs for pressurizing Micro Duct to prevent kinking and crushing during installation.

Part Number	Description
08780705	Micro Duct Pressure Gauge

FIBER CABLE
INSTALLATION

Micro Duct Packs: Gulfstream™ 400 & Mini-Blower/Pusher

Duct Size OD (MM)	Part Number	Duct Clamp	Duct Seal	INNERDUCT EYE	
				ID Range	P/N
10	08764140	08764142	08764143	5-9 mm	08913547
12	08764110	08764112	08764113	10-12 mm	08913545
12.7	08764150	08764151	08764153	10-12 mm	08913545
14	08764120	08764122	08764123	10-12 mm	08913545
16	08764130	08764132	08764133	10-12 mm	08913545
18	08781110	08781106	08781101	13-15 mm	08913538
20	08781120	08781122	08781121	14-20.65 mm	08914007



Cable Packs for Micro Fiber: Gulfstream™ 400

Pack	Cable Pack		Venturi		Cable Seal	
	Cable OD	P/N	Cable OD	P/N	Cable OD	P/N
1	0.23-0.34 (5.8-8.8)	08780393 Pack #1	0.23-0.34 (5.8-8.8)	08780281	0.23-0.28 (5.8-7.2)	08780406
					0.29-0.34 (7.3-8.8)	08780407
2	0.35-0.60 (8.9-15.2)	08780394 Pack #2	0.35-0.48 (8.9-12.2)	08781115	0.35-0.42 (8.9-10.7)	08761424
					0.43-0.48 (10.8-12.2)	08761425
			0.49-0.60 (12.3-15.2)	08781116	0.49-0.55 (12.3-14.0)	08761426
					0.56-0.60 (14.1-15.2)	08761427



Micro Fiber Cable Seal Kit

Part Number	Description
08764090	Micro Fiber Cable Seal Kit

Seal kit comes with the following items:

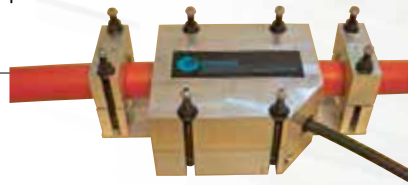
Replacement Push-On Retainers		Replacement Disc Carriers			
Part No.	Description	Part No.	Description	Part No.	Description
08764091K	1.5 mm	08764118K	8 mm	02284200	Loctite
08764092K	2.0 mm	08764128K	10 mm	02284600	Calipers
08764093K	2.5 mm	08764138K	12 mm		
08764094K	3.0 mm	08764148K	14 mm		



Y-Block

The Condux "Y"-Block is designed for installing a micro duct or fiber cable into and existing occupied duct, when coupled to the Condux Fiber Optic Cable Blower.

Part No.	Description
08782300	Y-Block



Common Parts Kit

Common Parts Package (included with all Y-Blocks) includes:

Part No.	Description	QTY	Part No.	Description	QTY
02283800	3/32" Hex Ball Driver	1	08780424	Machine Screws Kit	1
02284000	3/16" Drive Ratchet	1	08782316	Block, Cable Seal SM	1
02290520	9/16" Hex Socket	1	08782317	Block, Cable Seal LG	1
08761868	Cable Shuttle 1 1/4"	1	08782319	Manual	1
08761869	Cable Shuttle 1 1/2"	1	08782318	Dlx Y-block Case Foam	1
08780126	Seal Kit Replacement	1	02290222	Molded Storage Case	1



Common Parts Kit

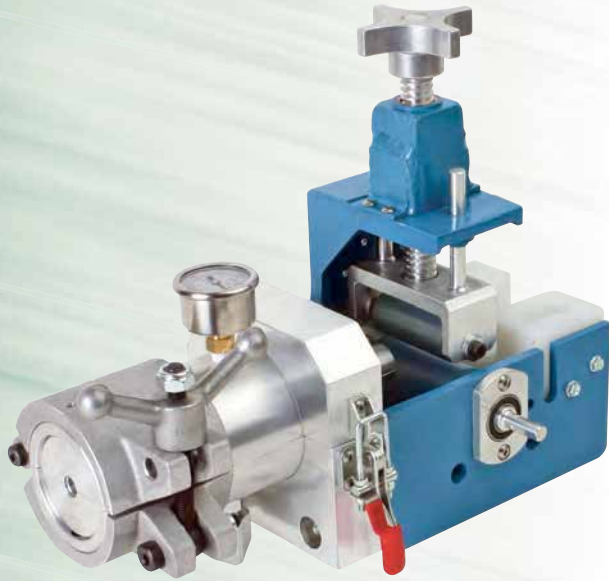
Features & Benefits

- Portable
- Easy to Use
- Duct Range 1.315 - 2.375 OD
- Cable Seal Range 0.35 - 0.90 OD
- Aluminum Construction
- Built-in Carrying Handles
- Canvas Storage Bag

Y-Block Duct Packs (sold separately)

(Each duct pack comes with 2-seals & 2-clamps).

Part Number	Description	Duct OD
08782302	DUCT PK.Y-BLOCK 1"	1.315
08782304	DUCT PK.Y-BLOCK 1 1/4"	1.660
08782306	DUCT PK.Y-BLOCK 1 1/2"	1.900
08782308	DUCT PK.Y-BLOCK 2"	2.375
08782324	DUCT PK.Y-BLOCK 25mm	25mm
08782326	DUCT PK.Y-BLOCK 32mm	32mm
08782328	DUCT PK.Y-BLOCK 40mm	40mm
08782330	DUCT PK.Y-BLOCK 50mm	50mm



Mini-Blower/Pusher

The Mini-Blower/Pusher from Condux is the lightweight, portable solution for easy installation of micro fiber and traditional fiber optic cable. The compact unit is ideally suited for your most difficult job sites and "last mile" fiber installations. An updated design has made operation easier than ever.

Backed by years of fiber blowing experience, the Mini-Blower/Pusher is designed for the installation of fiber optic cables with diameters from 0.23" (5.8 mm) to 0.50" (12.7 mm) into micro duct 10 mm to 18 mm or traditional duct from 0.50" (12.7 mm) to 2" (50.8 mm).

Part Number	Description
08780800	Mini-Blower/Pusher

Replacement Parts

Part Number	Description
08081320	Flat Roller for Flat Fiber
08081319	V-Grooved Roller Bottom
08081313	Top Roller Sleeve

See page 125 for Cable & Duct Packs.



Job Box with Kit & Job Box

The Mini-Blower/Pusher is easy to handle and transport. The blower and all accessories including cable and conduit packs and seal kits conveniently fit into a lightweight job box. There are two different Mini-Blower/Pusher Job Box with Kit options to choose from. The Kit as shown to the left: includes 12 mm and 12.7 mm duct packs and cable packs 1 & 2 in the Mini-Blower/Pusher cable pack chart on page 125.

Part Number	Description
08780801	Mini-Blower/Pusher Job Box with Kit for 12 mm & 12.7 mm duct and includes cable packs 1 & 2 in the Mini-Blower/Pusher cable pack chart on page 141 (08780802, 08780804)
08780865	Mini-Blower/Pusher Job Box with Kit for 3/4" & 1 1/4" duct and includes cable packs 1, 2 & 3 in the Mini-Blower/Pusher cable pack chart on page 141 (08780802, 08780804, 08780806)
08780860	Job Box



Heavy Duty Tripod

The Mini-Blower/Pusher mounts easily to the surveyor style tripod, which adds stability and versatility to fiber optic cable installations.

Part Number	Description
08780850	Heavy Duty Tripod



Pneumatic Drill Drive "Y" Connector

A "Y" Connector air hose option allows for the use of a pneumatic drill drive configuration. Unit also comes with variable pressure control.



Part Number	Description
08780855	"Y" Connector with hose assembly
08780856	"Y" Connector only

DUCT PACKS: GULFSTREAM™ 400 & MINI-BLOWER/PUSHER

PACK	DUCT PACK		DUCT CLAMP		DUCT SEAL		CARRIER		FOAM CARRIER		CABLE GRIP		INNERDUCT EYE P/N and ID Range
	Duct Size	P/N	Duct OD	P/N	Duct OD	P/N	Carrier	P/N	Carrier OD	P/N	Duct OD	P/N	
1	½" SDR 11-13.5	08780795 Pack #1	0.84 [21.30]	08780791	0.84 [21.30]	08780786	0.688 [17.50]	08780793	0.75 [19.0]	08078300	.75-.99 [19-25]	08643131 033-03-012	08761840 .71-.87 [18-22]
2	¾" SDR 11-13.5	08780680 Pack #2	1.050 [26.6]	08780682	1.050 [26.6]	08780685	0.75 [19.0]	08780690	0.75 [19.0]	08078300	1.00-1.24 [25.4-31.5]	08643137 033-03-013	08761840 .71-.87 [18-22]
3	1" SDR 11/13.5	08780386 Pack #3	1.315 [33.4]	08780369	1.315 [33.4]	08780307	1.121 [28.5]	08761250	1.25 [31.8]	08761439	1.00-1.24 [25.4-31.5]	08643137 033-03-013	08761842 1.06-1.43 [27-37]
4	1.25" SDR 11/13.5	08780392 Pack #4	1.660 [42.2]	08780375	1.660 [42.2]	08780051	1.414 [35.9]	08761255	1.50 [38.1]	08761440	1.50-1.99 [38.1-50.5]	08643149 033-03-016	08761842 1.06-1.43 [27-37]
5	1.5" SDR 11/13.5	08780397 Pack #5	1.900 [48.3]	08780404	1.900 [48.3]	08780398	1.618 [41.1]	08761260	1.75 [44.5]	08761441	1.50-1.99 [38.1-50.5]	08643149 033-03-016	08761844 1.37-1.68 [35-43]
6	2" SDR 11/13.5	08780930 Pack #6	—	—	—	—	2.023 [51.4]	08761265	2.00 [50.8]	08761442	2.00-2.49 [50.8-63.2]	08643155 033-03-017	08761846 1.37-1.68 [35-43]
7	20 mm	08781120 Pack #7	0.787 [20.0]	08781122	0.787 [20.0]	08781121	0.688 [17.5]	08780793	1.00 [25.4]	08761444	.75-.99 [19.1-25.1]	08643131 033-03-012	08914007 .55-.81 [14-20.6]
8	25 mm	08780240 Pack #8	0.984 [25.0]	08780099	0.984 [25.0]	08780134	0.787 [20.0]	08780230	1.25 [31.8]	08761439	1.00-1.24 [25.4-31.5]	08643137 033-03-013	08761840 .71-.89 [18-22]
9	32 mm	08780385 Pack #9	1.260 [32.0]	08780368	1.260 [32.0]	08780306	1.063 [27.0]	08761560	1.25 [31.8]	08761439	1.25-1.49 [31.8-37.8]	08643143 033-03-015	08761842 1.06-1.43 [27-37]
10	36 mm	08780387 Pack #10	1.417 [36.0]	08780370	1.417 [36.0]	08780308	1.181 [30.0] 1.220 [31.0]	08761643 08761555	1.25 [31.8]	08761439	1.25-1.49 [31.8-37.8]	08643143 033-03-015	08761842 1.06-1.43 [27-37]
11	37 mm	08780388 Pack #11	1.457 [37.0]	08780371	1.457 [37.0]	08780309	1.220 [31.0]	08761555	1.25 [31.8]	08761439	1.25-1.49 [31.8-37.8]	08643143 033-03-015	08761842 1.06-1.43 [27-37]
12	1.25" TRUE	08780389 Pack #12	1.500 [38.1]	08780372	1.500 [38.1]	08780333	1.250 [31.7]	08761670	1.50 [38.1]	08761440	1.25-1.49 [31.8-37.8]	08643143 033-03-015	08761842 1.06-1.43 [27-37]
13	40 mm	08780390 Pack #13	1.575 [40.0]	08780373	1.575 [40.0]	08780334	1.299 [33.0]	08761579	1.50 [38.1]	08761440	1.50-1.99 [38.1-50.5]	08643149 033-03-016	08761842 1.06-1.43 [27-37]
14	42 mm	08780391 Pack #14	1.653 [42.0]	08780374	1.653 [42.0]	08780335	1.378 [35.0]	08761660	1.50 [38.1]	08761440	1.50-1.99 [38.1-50.5]	08643149 033-03-016	08761842 1.06-1.43 [27-37]
15	44 mm	08780545 Pack #15	1.732 [44.0]	08780546	1.732 [44.0]	08780547	1.496 [38.0]	08761786	1.50 [38.1]	08761440	1.50-1.99 [38.1-50.5]	08643149 033-03-016	08761842 1.06-1.43 [27-37]
16	50 mm	08780575 Pack #16	1.969 [50.0]	08780435	1.969 [50.0]	08780431	1.606 [40.0]	08761579	2.00 [50.8]	08761442	1.50-1.99 [38.1-50.5]	08643149 033-03-016	08761844 1.37-1.68 [35-43]

MICRO DUCT PACKS: GULFSTREAM™ 400 & MINI-BLOWER/PUSHER

Duct Size OD (MM)	Part Number	Duct Clamp	Duct Seal	ID Range	INNERDUCT EYE P/N
10	08764140	08764142	08764143	5-9 mm	08913547
12	08764110	08764112	08764113	10-12 mm	08913545
12.7	08764150	08764151	08764153	10-12 mm	08913545
14	08764120	08764122	08764123	10-12 mm	08913545
16	08764130	08764132	08764133	10-12 mm	08913545
18	08781110	08781106	08781101	13-15 mm	08913538
20	08781120	08781122	08781121	14-20.65 mm	08914007

CABLE PACKS: MINI-BLOWER/PUSHER & HAND-HELD BLOWER

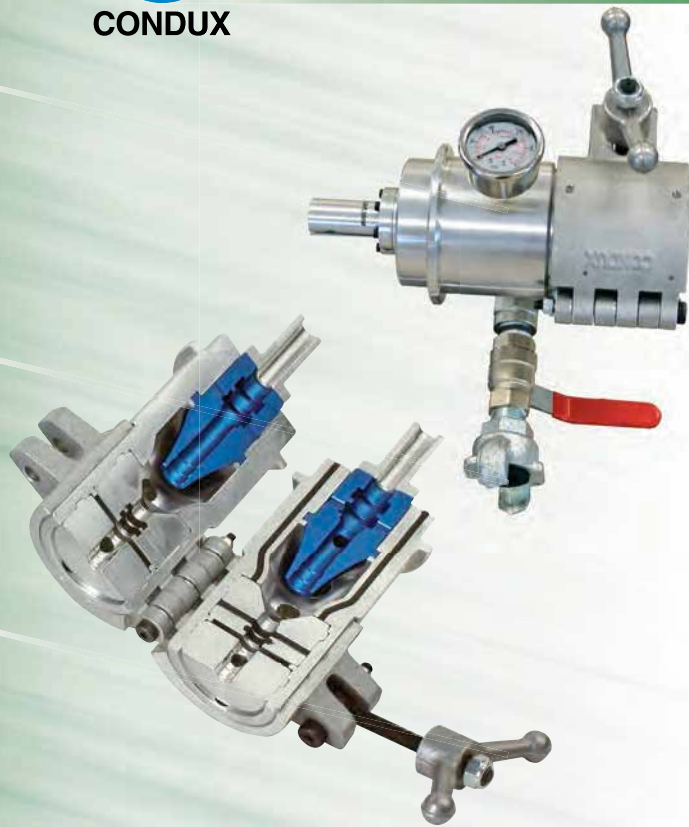
Pack	CABLE PACK		VENTURI		CABLE SEAL	
	Cable OD	P/N	Cable OD	P/N	Cable OD	P/N
1	0.23-0.34 [5.8-8.8]	08780802 Pack #1	0.23-0.34 [5.8-8.8]	08780803	0.23-0.28 [5.8-7.2]	08780406
					0.29-0.34 [7.3-8.8]	08780407
2	0.35-0.48 [8.9-12.2]	08780804 Pack #2	0.35-0.48 [8.9-12.2]	08780805	0.35-0.42 [8.9-10.7]	08761424
					0.43-0.48 [10.8-12.2]	08761425
3	0.49-0.60 [12.3-15.2]	08780806 Pack #3	0.49-0.60 [12.3-15.2]	08780807	0.49-0.55 [12.3-14.0]	08761426
					0.56-0.60 [14.1-15.2]	08761427
4	[10.4-5.5 mm]	08781117 Pack #4	Nylatron Venturi for Flat Fiber Optic Cables			
5	[15.2-6.7 mm]	08781118 Pack #5	Nylatron Venturi for Flat Fiber Optic Cables			

FYI

Duct Packs and Micro Duct Packs listed here can be used with the Gulfstream 400 and the Mini-Blower/ Pusher.

The Cable Packs listed can be used with the Mini-Blower/ Pusher and the Hand-held Blower.

FIBER CABLE INSTALLATION



Hand-held Fiber Blower

The Condux hand-held fiber blower is ideal for shorter run fiber optic cable or micro fiber optic cable installations. The unit's hinged design makes it easy to install and remove duct and fiber. The Condux hand held fiber blower installs fiber from 0.20 inches (5.8 mm) to 1.13 inches (28.7 mm) into duct from 0.39 inches (10 mm) to 2 inches (50.8 mm). The unit is also ideal for installing flat fiber.

Must be less than 60% fill ratio in order to work!

Part Number	Description
08081315	Hand-held fiber blower

Common Parts Package

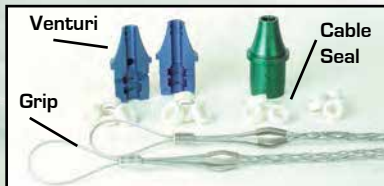
Common Parts Package (included with all Hand-held Blowers) includes:

Part No.	Description
02290168	Hex key set metric and standard
08780126	Seal replacement kit
08780223	Venturi Plug
08780424	Capscrew Set (M04-0.7 x 16)

Features & Benefits

- Portable & Lightweight
- Easy to Use
- Built in Air Gauge
- Aluminum Construction
- Hinged Design
- Low Cost Alternative
- Duct Range 10 mm - 2" OD
- Cable Seal Range 5.8 mm - 15.2 mm OD

Cable Packs: Mini-Blower/Pusher & Hand-held Blower



FYI
These Cable Packs can be used with the Mini-Blower/Pusher and the Hand-held Blower.

Pack	Cable Pack		Venturi		Cable Seal	
	Cable OD	P/N	Cable OD	P/N	Cable OD	P/N
1	0.23-0.34 (5.8-8.8)	08780802 Pack #1	0.23-0.34 (5.8-8.8)	08780803	0.23-0.28 (5.8-7.2)	08780406
					0.29-0.34 (7.3-8.8)	08780407
2	0.35-0.48 (8.9-12.2)	08780804 Pack #2	0.35-0.48 (8.9-12.2)	08780805	0.35-0.42 (8.9-10.7)	08761424
					0.43-0.48 (10.8-12.2)	08761425
3	0.49-0.60 (12.3-15.2)	08780806 Pack #3	0.49-0.60 (12.3-15.2)	08780807	0.49-0.55 (12.3-14.0)	08761426
					0.56-0.60 (14.1-15.2)	08761427
4	(10.4-5.5 mm)	08781117 Pack #4	Nylatron Venturi for Flat Fiber Optic Cables			
5	(15.2-6.7 mm)	08781118 Pack #5	Nylatron Venturi for Flat Fiber Optic Cables			

Innerduct Eyes for Micro Duct

Tapered buttress threads into the micro duct for maximum pulling strength.

Part Number	Description
08913547	Innerduct Eyes for Micro Duct (5-9 mm ID)
08913545	Innerduct Eyes for Micro Duct (10-12 mm ID)
08913538	Innerduct Eyes for Micro Duct (13-15 mm ID)



Multiple Pulling Harness for Micro Duct Installation

Six leg harness with 3-inch separation between legs for installing micro duct into existing innerduct.

Part Number	Description
08549350	Multiple Pulling Harness



Micro Fiber Carrier Kit

Designed to attach to the central strength member (CSM) of the cable. The seals are sized to accommodate the proper ID duct size for maximization of the blowing distances and create an airtight seal in the duct.

Part Number	Description
08764090	Micro Fiber Carrier Kit



Polywater® Prelube 5000™

Polywater® Prelube 5000™ is more concentrated than the Prelube 2000™. It is intended for blowing microcable into small diameter microtubes. The improved chemistry allows this product to spread further and reduce friction levels. The lower viscosity allows practical application into the microtubes.

Part Number	Description	Case Lots
08230675	Polywater® Prelube 5000™	6/case



FIBER CABLE
INSTALLATION

PSI Shuttles

These unique, flexible shuttles are available in triple parachute configuration, making rope, pull tape and fiber optic cable installation in occupied duct a breeze. These shuttles can be used on their own or in series allowing for up to six parachutes to capture the air within the conduit, which can help increase installation distances. The parachutes collapse without constant air pressure allowing for easy pullback.

Part Number	Duct Size	
	(in)	(mm)
08761868	1.00-1.25	25-32
08761869	1.50-2.00	38-50

