SMITH/ACO Trench Drain Series

Polymer Concrete, Fiberglass and Stainless Steel Surface Drainage Systems
The 9818 Channel Slope® Precast Polymer Concrete System is the flagship trench drain in the Jay R. Smith Mfg. Co.® Drainage Systems product line.

The 9818 is a sloped trench drain system which incorporates an integral cast-in metal rail edge design. This innovative concept provides reinforced edge protection for the polymer concrete channel and offers a striking and distinctive finished appearance.

The 9818 Channel utilizes QuickLock® cover grate and rail which protects the polymer concrete edge. A number of different cover grates with matching cast-in rails are available. When fitted with a heavy duty ductile iron cover or grate, 9818 can be recommended for infrequent hard wheel traffic of 10 ton wheel loads and up to load class “E” (135,000 lbs.).

Where visual effect is of paramount importance, Jay R. Smith Mfg. Co. Drainage Systems can supply cover grates and matching integral rails from its precious metal series. These include attractive galvanized or stainless steel rail edge. This important feature allows architects and designers to provide efficient surface water drainage while enhancing the visual appearance of projects such as shopping malls, major entry ways and other locations where aesthetic appearance is paramount.

Refer to pages 20 - 22 for complete drainage system grate information.

QuickLock® assembly components
Cross section with QuickLock®

Refer to page 16 for QuickLock® detail

Channel Slope® and QuickLock® are registered trademarks of ACO Polymer Products, Inc.
Precision molded from durable polymer concrete, 9814 Channel Slope® System is the workhorse of the line. This precast system can be configured to accommodate a wide range of applications and site requirements.

Installation is quick and precise as the precast channels are joined via positive, interlocking tongue and groove ends. This reduces installation time and related costs.

The latest design has been engineered to provide the one meter length channels with improved security, reinforcement and flexibility for installation.

The 9814 utilizes the Quicklock® cover grate. Anchor ribs on the outside channel walls offer security against upward movement or shifting after installation. Inside the channel, reinforced locking areas protect against liquid buildup in surrounding concrete. A locking bar securely holds the cover grate in place.

Design flexibility is enhanced due to vertical 4” round or 6” flumed knockouts (all channels) and side knockouts to accept channels (half meter). These knockouts provide a wide range of vertical and horizontal evacuation points for on-site versatility during installation.

The system’s 30 channels employ a built in 0.6% slope and radiused bottom. Neutral channels are available in full and half meter sizes to lengthen the system.

Jay R. Smith Mfg. Co.® Drainage Systems offer a line of cover grates and accessories engineered to fit securely with 9814 channels. Grate selection is determined by traffic conditions, chemical environments, hydraulic needs and aesthetic requirements. Refer to page 20 - 22 for drainage system grate information.

Accessories include catch basins, pipe and flumed outlets, installation and maintenance products are found on pages 18 and 23.
This extra heavy duty version of the 9814 system incorporates a ductile iron frame and grate. Recommended for situations requiring an extra heavy duty, fully sloped channel system, 9816 provides the perfect drainage solution. This system is capable of handling solid tire traffic and provides high resistance against impact from steel containers, struts and metal wheels.

The sturdy ductile iron framework will also accept any of the 9814 cast or ductile iron gratings or covers to meet specific site requirements. Refer to pages 21 and 22 for drainage system grate information.

The frame adds an additional height of 1.1” (28 mm) to channel units. See chart on the next page for details of channel depth, system design and holding capacity.

Supplied with concrete anchors that tie the ductile iron frames into the surrounding concrete. The 9816 series grates are specially designed to prevent longitudinal or lateral movement.

To provide additional finishing detail, end frames are available for each end of channel run. The complete line of 9814 accessories is available for use with the 9816 system.
The Jay R. Smith Mfg. Co.® 9828 Channel Brute Drainage System is a wider, high capacity version of our 9816 extra heavy duty polymer concrete system. The 9828 system is a pre-manufactured trench drain system with 12” of internal width and integral ductile iron rails. The channel in combination with our secured ductile iron slotted grate is rated for DIN 19580 Load Class “F” for 202,320 pound loads. The grate is secured with eight high strength bolts to the ductile iron frame.

The Channel Brute System is available in two neutral depths and 20 interlocking, 0.6% pre-sloped channels. The shallowest channel is 13.06” and the deepest is 17.81”. The 9828 system is available in one meter (3.28’) sections. A closing end cap and a horizontal outlet caps provide for a complete drainage system. All channel sections are provided with a vertical performed knockout of 6” and 8” outlet discharge.

Channel Brute System is designed for extra heavy-duty installations such as airports, bus depots, military bases, warehouses, service stations, highways, and other industrial areas. Strengthening ribs on the channel sides create a stronger and safer system capable of withstanding the considerable loading imposed by the turning action of heavy wheeled vehicles. Side profiling also provides anchoring to the surrounding concrete to prevent movement due to freeze-thaw cycles.
Jay R. Smith Mfg. Co.® Drainage Systems offers a revolutionary concept in presloped drainage channels - 9810 System. The 9810 utilizes sophisticated hydraulics to maximize the use of each radiused bottom channel. The 9810 System is composed of 10 sloped and 6 neutral channels: (3) 3 meters (9 feet, 10 inches) in length, and (3) 1 meter (3 feet, 3 inches) in length.

The channels have a 1.0% slope to increase the velocity of the liquid flow. In comparison to conventional 4 inch width uniformly sloped systems, 9810 provides approximately 20% higher flow capacity and velocity. This is a substantial benefit in large applications where high capacity is a concern.

Channels are available in both high performance polyester and vinylester fiberglass and provide resistance to a variety of corrosive elements. This offers minimum maintenance costs and long service life to systems even in extreme chemical environments.

Channels are molded precisely with a smooth finish and are color coded for both material types. Polyester units are tan and vinylester units are gray: both are marked with flow direction arrows and progressive channel numbers. Male/female channel ends form high integrity lap joints.

The lightweight channels are easily assembled to the grate frame. Each channel is fitted with a “Z” profile, coated steel, galvanized or stainless steel frame, depending on the application. The grate frames are available in 3 meter and 1 meter lengths. The labor savings compared to shorter, heavier systems is substantial.

Jay R. Smith Mfg. Co. Drainage Systems offer a line of grates and covers engineered to fit securely with 9810 channels which come equipped with QuickLock® locking device. Grates are selected based on traffic conditions, chemical environments, hydraulic needs and aesthetic requirements. Refer to pages 20 through 22 for complete drainage system grate information.

Accessories include bottom vertical outlet units, catch basins, outlet caps. The accessories are easily custom fit to the channel layout with on-site fabrications, providing maximum flexibility to designer and installer.
Jay R. Smith Mfg. Co.® Drainage Systems now provides the industry with a precision engineered solution for high capacity drainage requirements.

The 9812 System combines high strength, corrosion resistant polyester (tan) or vinylester (gray) fiberglass with an innovative design. Channels have an 8" internal width with the additional feature of a built-in slope of 1.0%.

These features promote quick evacuation of large volumes of standing or surface liquids. The wider interior width allows not only for increased hydraulic capacity but also for an efficient means of handling solids.

The system’s twelve sloped channels are each nine feet in length and channel depth varies from 6.88 to 20.38 inches. Four neutral nine foot channels and four neutral three foot channels are available to lengthen the system.

The lightweight channel design of the 9812 System allows for exceptionally rapid installation. The heaviest nine foot channel and grate frame assembly is easily handled since it weighs only 81 pounds. Prior to installation, each channel is fitted with a frame using fourteen plastic push pins. The 9812 frame is equipped with concrete anchors (one pair per every 18 inches).

Frames are available in 3 or 9 foot lengths, allowing channel units to be installed in these lengths. Cast iron slotted grating is recommended for heavy duty pneumatic tire traffic and ductile iron slotted grating is recommended for extra heavy duty solid tire traffic applications. These 18 inch grates are securely locked to the sturdy grate frame with two stainless steel 1/2" bolts. For lighter duty applications, galvanized or stainless steel bar grating can be provided based on mechanical or chemical requirements. These three foot grates are locked down to the frame with four socket head bolts per grate. For extreme chemical conditions, vinylester fiberglass bar grating is available in three foot lengths. Refer to page 22 for 9812 Series grating information.

Accessory components include catch basins, universal end caps, universal outlet caps, 4", 6" and 8" bottom outlets to provide a high degree of flexibility when designing the system. Custom outlets are available upon customer request.

The 9812 Catch Basin comes with coated steel frame and ductile iron grate. These basins may be used with any channel section to serve as an outlet point for the trench system. Knockouts to accept trench inlets are easily fabricated in the catch basin walls on the job site.
9832 Shallow Channel Systems

The 9832 Shallow Channel Systems provide a cost effective solution in applications where surface drainage or ducting is needed but installation depth is restricted. 9832 Shallow Channel Systems (Channels #080 and #0100) consist of two depths, 3.15” and 4.0” (80 mm and 102 mm).

Made from high strength polyester or vinyl-ester concrete, these units are lightweight and easy to install. Each channel has a groove profile to assist with alignment during installation.

All of the standard QuickLock® cover grates can be utilized with the 9832 Shallow Channel Systems. Refer to pages 20 - 22 for complete drainage system grate information.

Note: This trench drainage system is designed for “on-grade” applications only, as there are no provisions for a flashing flange or flashing clamp.

9836 Shallow Channel with Rails

In general, the 9836 Shallow Channel Systems are identical to the 9832 systems but incorporate an integrally molded galvanized steel or stainless steel edge rail for applications up to DIN load class E.

Also made from high strength polyester or vinyl-ester concrete, these units are lightweight and easy to install. Each channel has a groove profile to assist with alignment during installation.

All of the standard QuickLock® cover grates can be utilized with the 9836 Shallow Channel Systems. Refer to pages 20 - 22 for complete drainage system grate information. Closing end caps in galvanized steel or stainless steel are also available. A 4.00 drill out is located on the bottom of each channel to fit schedule 40 PVC piping. (supplied by others)

Note: This trench drainage system is designed for “on-grade” applications only, as there are no provisions for a flashing flange or flashing clamp.

9837 Membrane Drain

This trench drain is not intended for use above occupied spaces.

The 9837 Membrane Drain Waterproofing System is designed specifically for use in suspended slabs where any liquid permeating through the concrete is collected by a membrane and directed back into the trench drain via weepholes.

A pair of polymer concrete membrane clamping subframes are placed on top of either 9832 or the 9814 channel system after the membrane is laid and the channel and the subframes are clamped together with a metal clamping device, essentially sandwiching the membrane in between.

The subframes are available with galvanized steel or stainless steel edge rails. Loading is determined by the grating up to DIN load class C.
9833 MINIKLASSIC Narrow Channel

The 9833 MiniKlassic Narrow Channel System is a 2” internal width system for high profile aesthetic applications where a barrier is required to separate wet and dry areas. Made from high strength polyester polymer concrete, these units are available with integrally molded galvanized steel or stainless steel edge rails, which protect the channel edge from damage. 1.50” SCH 40 drill out allows vertical drainage of run at any point.

Note: This trench drainage system is designed for “on-grade” applications only, as there are no provisions for a flashing flange or flashing clamp.

9857 Oil Separator

The Jay R. Smith Mfg. Co.® Drainage Systems 9857 Oil Separator effectively helps to separate oils, gases, acids, sand, food remainss and sludges from waste water. It can be utilized in a variety of applications – auto body shops, gas stations, and manufacturing and food processing plants. The 9857 is a manufactured double-basin 220 gallon capacity design from polymer concrete. All PVC 4” piping and cover plates are provided.

Technical assistance is also available for installation, which normally is accomplished in a few hours.

1/4” steel diamond cover plates with carbonic zinc coatings are standard for the 9857. The load rating is Class A, or light Duty, for slow speed pneumatic tire traffic only, gross vehicle weight of 3500 lbs – 70PSI.

Available options include holes for venting and Heavy Duty load class “C” covers.

9846 Sump Boxes

The Jay R. Smith Mfg. Co.® Drainage Systems 9846 Sump Boxes are preassembled modular units which offer solutions to many applications. Well suited for high capacity flow rates, solids and sludge handling, chemical containment and pump housing, the sump boxes are available in a range of sizes from 2’x2’x2’ to 4’x4’x4’.

These polymer concrete sump boxes are easily adapted for uses with any of the Channel Slope Precast Polymer Concrete Systems. Upon specification, knockouts can be custom fabricated for pipe connections. Regularly furnished with cast iron frame and loose set cast iron slotted grate. Jay R. Smith Mfg. Co. Drainage Systems trained staff will assist in specifying the 9846 Sump Box to meet your special needs.
The 9860 and 9868 Series Catch Basins are designed for the 9814 and 9818 Channel Systems and accommodate any style 9870 series grate. Trash buckets in molded polypropylene are available for easy collection and removal of debris. Knockout panels are provided on either end of the catch basin for connection with channels.

### 9864 Modular Catch Basins

The 9864 modular catch basins with extensions are available for the 9814 and 9818 systems. These stackable, modular units have center sections to extend the catch basin to meet depth requirements. Furnished with ductile iron slotted grate or ductile iron ADA compliant grate.

### 9812 Catch Basins

The 9812 Series Catch Basins are (9812-660-CB12) 1'-3" x 2’ x 2'-3" deep and (9812-880-CB24) 2’ x 2'-3" x 2'-4" deep units. It can be used in conjunction with either Fiberglass Trench System, 9810 or 9812. Knockouts to accept trench inlets or plumbing connections are easily fabricated on the job site. All units come standard with a secured, slotted ductile iron grate and coated steel frame, as well as installation brackets.