

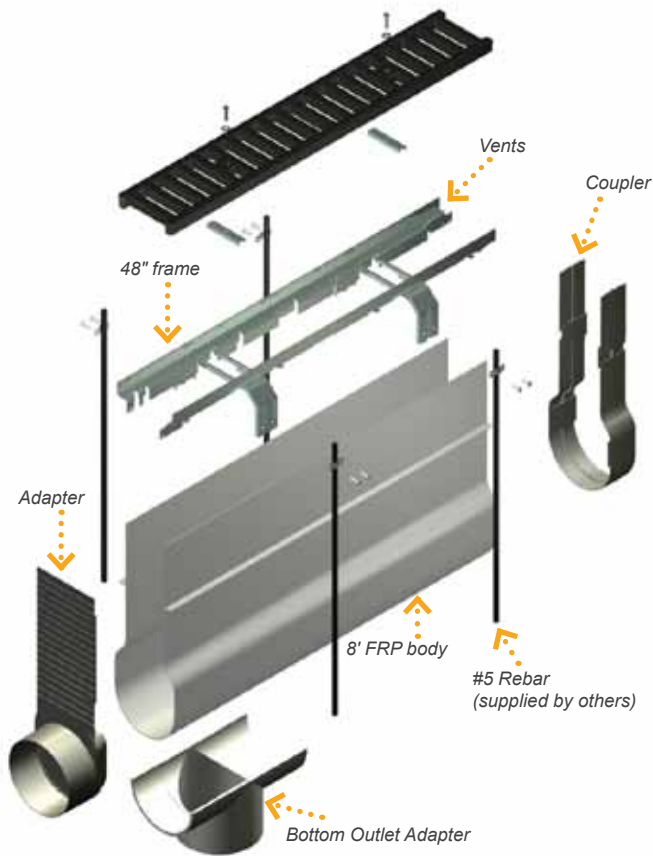
3000 SERIES

3000 Series Assembly

High Capacity Drain System

The POLYCAST® 3000 Series is a high capacity drain system designed for airports, roadways and other applications needing especially high flow volume. POLYCAST 3000 can achieve flow rates of more 3000 GPM (gallons per minute) or 6.73 cfs (cubic feet per second).

Channels are pultruded fiberglass and are available in polyester resin or in Vinyl Ester resin for exceptionally high chemical resistance. The strong vertical sidewalls reduce sidewall deflection during the concrete pour and therefore maintain maximum flow capacity. The sidewalls of many other drain systems tend to collapse during this critical process, resulting in substantially reduced flows.



- More Than 3000 GPM Flow Rate
- Up to 240' of continuous slope
- 8-foot Channel Sections
- 4 slopes available from 0.5% to 1.25%
- Lightweight
- Corrosion Resistant
- Rapid Installation
- Utilizes Standard Grating
- Single Lift Concrete Placement

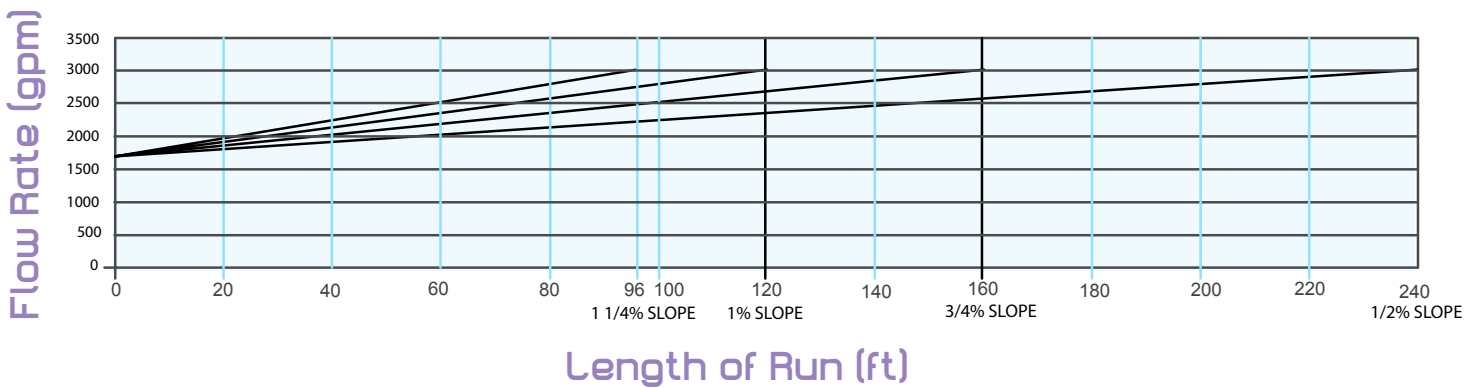
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Custom Slope

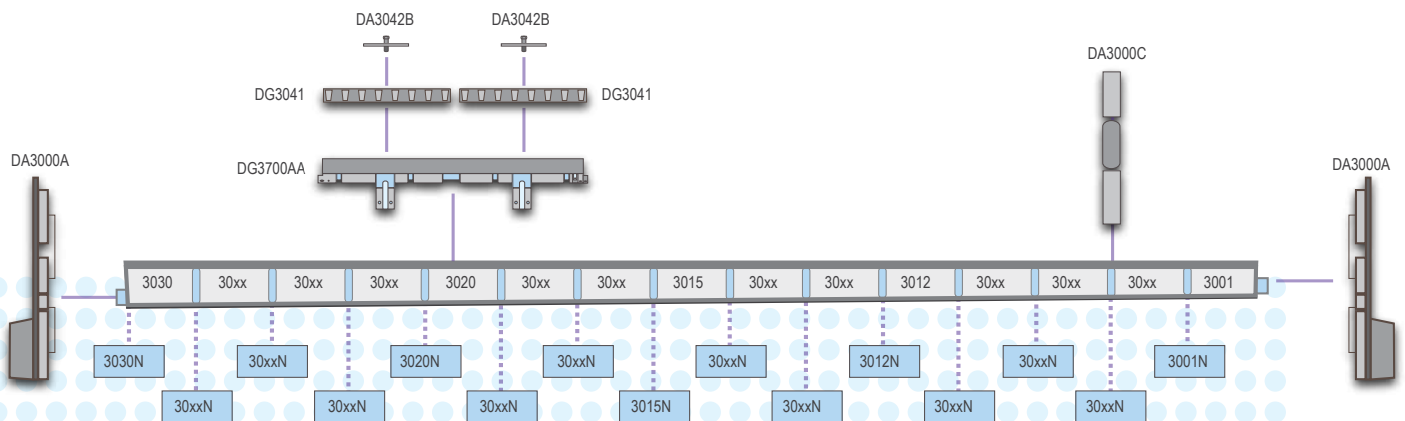
POLYCAST® 3000 channels are available with 0.5%, 0.75%, 1%, and 1.25% built in slopes. Differing slopes can be integrated into the channel design for varying site conditions. The number of channels varies with the selected slope, from as few as 12 to 30.

Flow Capacity for 3000 Series Variable Built-in Slopes



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Drain Configuration



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Multi-Slope Drain Configuration Chart

0.5% Slope

Channels: 3001 - 3030

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	13.63	1607	5.8	23.7
3002	13.63	14.11	1656	5.8	24.5
3003	14.11	14.59	1704	5.8	25.3
3004	14.59	15.07	1753	5.8	26.0
3005	15.07	15.55	1802	5.8	26.8
3006	15.55	16.03	1850	5.8	27.5
3007	16.03	16.51	1899	5.8	28.3
3008	16.51	16.99	1947	5.8	29.1
3009	16.99	17.47	1996	5.8	29.8
3010	17.47	17.95	2045	5.8	30.6
3011	17.95	18.43	2093	5.8	31.3
3012	18.43	18.91	2142	5.8	32.1
3013	18.91	19.39	2191	5.8	32.9
3014	19.39	19.87	2239	5.8	33.6
3015	19.87	20.35	2288	5.8	34.4

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3016	20.35	20.83	2336	5.8	35.1
3017	20.83	21.31	2385	5.8	35.9
3018	21.31	21.79	2434	5.8	36.7
3019	21.79	22.27	2482	5.8	40.0
3020	22.27	22.75	2531	5.8	40.8
3021	22.75	23.23	2580	5.8	41.5
3022	23.23	23.71	2628	5.8	42.3
3023	23.71	24.19	2677	5.8	43.0
3024	24.19	24.67	2725	5.8	43.8
3025	24.67	25.15	2774	5.8	44.6
3026	25.15	25.63	2823	5.8	45.3
3027	25.63	26.11	2871	5.8	46.1
3028	26.11	26.59	2920	5.8	46.8
3029	26.59	27.07	2969	5.8	47.6
3030	27.07	27.55	3017	5.8	48.4

0.75% Slope

Channels: 3001 - 3020

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	13.87	1631	5.8	24.5
3002	13.87	14.59	1704	5.8	25.8
3003	14.59	15.31	1777	5.8	27.0
3004	15.31	16.03	1850	5.8	28.3
3005	16.03	16.75	1923	5.8	29.5
3006	16.75	17.47	1996	5.8	30.8
3007	17.47	18.19	2069	5.8	32.0
3008	18.19	18.91	2142	5.8	33.3
3009	18.91	19.63	2215	5.8	34.6
3010	19.63	20.35	2288	5.8	35.8

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3011	20.35	21.07	2361	5.8	37.1
3012	21.07	21.79	2435	5.8	38.3
3013	21.79	22.51	2507	5.8	39.6
3014	22.51	23.23	2580	5.8	40.9
3015	23.23	23.95	2653	5.8	42.1
3016	23.95	24.67	2725	5.8	43.4
3017	24.67	25.39	2798	5.8	44.6
3018	25.39	26.11	2871	5.8	45.9
3019	26.11	26.83	2944	5.8	47.1
3020	26.83	27.55	3017	5.8	48.4

1% Slope

Channels: 3001 - 3015

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	14.11	1713	5.8	24.5
3002	14.11	15.07	1806	5.8	26.0
3003	15.07	16.03	1899	5.8	27.5
3004	16.03	16.99	1992	5.8	29.1
3005	16.99	17.95	2085	5.8	30.6
3006	17.95	18.91	2178	5.8	32.1
3007	18.91	19.87	2271	5.8	33.6
3008	19.87	20.83	2363	5.8	35.1

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3009	20.83	21.79	2456	5.8	36.7
3010	21.69	22.75	2549	5.8	40.8
3011	22.69	23.71	2642	5.8	42.3
3012	23.63	24.67	2735	5.8	43.8
3013	24.56	25.63	2828	5.8	45.3
3014	25.56	26.59	2921	5.8	46.8
3015	26.50	27.55	3017	5.8	48.4

1.25% Slope

Channels: 3001 - 3012

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3001	13.15	14.35	1680	5.8	24.5
3002	14.35	15.55	1802	5.8	26.7
3003	15.55	16.75	1923	5.8	28.8
3004	16.75	17.95	2045	5.8	31.0
3005	17.95	19.15	2166	5.8	33.2
3006	19.15	20.35	2288	5.8	35.4

Part Number	Inlet Depth (in.)	Outlet Depth (in.)	Flow (gpm)	Flow Velocity (fps)	Wt. (lbs.)
3007	20.35	21.55	2409	5.8	37.5
3008	21.55	22.75	2534	5.8	39.7
3009	22.75	23.95	2653	5.8	41.9
3010	23.95	25.15	2774	5.8	44.1
3011	25.15	26.35	2896	5.8	46.2
3012	26.35	27.55	3017	5.8	48.4

3000 Series Grates



Fiberglass

Designed for use with POLYCAST® 3000 Vinyl Ester channels in areas requiring extreme chemical resistance.

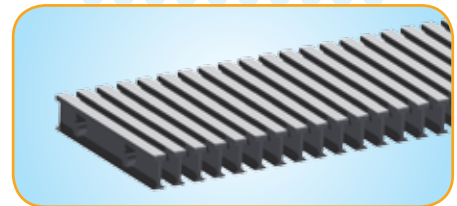
Part No. DG3044

Open Area: 38 in²/Linear Foot

Dimensions: 8" x 48" x 1.5"

Weight: 12 lbs.

Slot Size: 0.38" wide



Ductile Iron Slotted

A heavy duty grate suitable for frequent traffic applications. Exceeds AASHTO H-20 and FAA requirements.

Part No. DG3041D

Open Area: 42 in²/Linear Foot

Dimensions: 8" x 24" x 1.5"

Weight: 36 lbs.

ASTM A536 Class 65-45-12

Slot Size: 1.38" x 6.50" wide



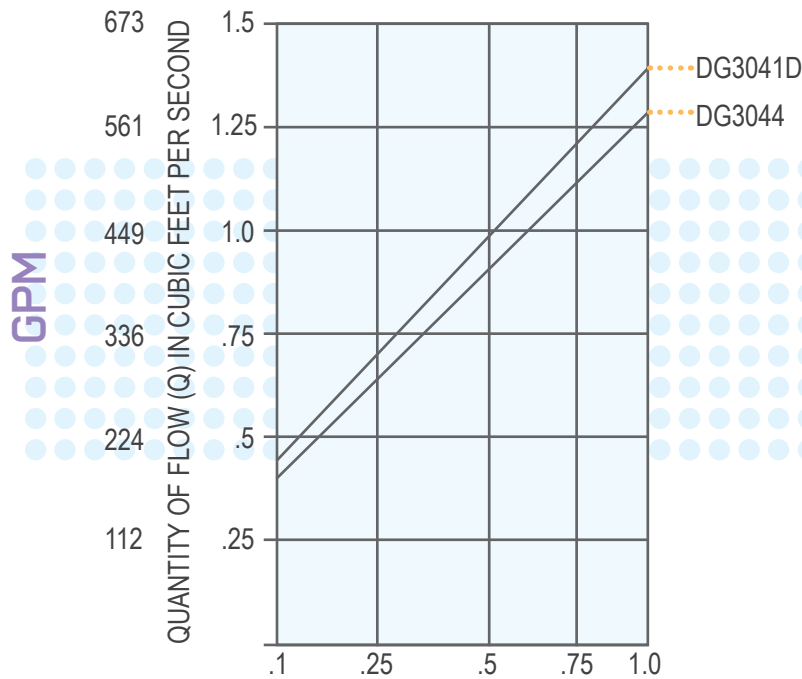
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Grate In-Flow Chart

Quantity of Flow Through 3000 Series Grates

Based on 1' 3000 Series Channel

Computed using Orifice Equation $Q=CA\sqrt{2gh}$

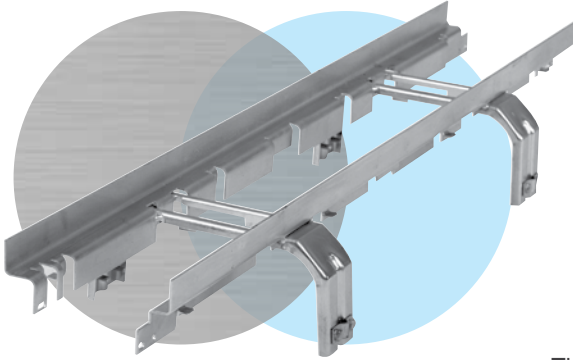


Head of Water Above Grate in Feet



"U" Bottom: The U-shaped bottom found on all series of POLYCAST provides the best overall flow characteristics.

Accessories



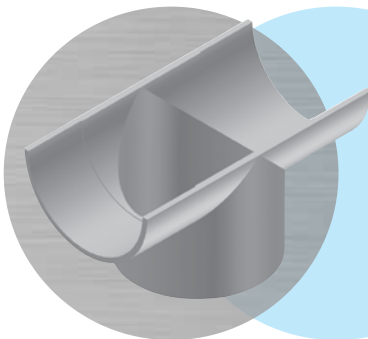
Frames

48" Dual Plated Corrosion Resistant Channel Frame (Required)

Part No.: DG3700 ANSI 1018, ASTM A-36, Zinc-Plated 11 Gauge Steel; DG3700S 18-8 Stainless Steel

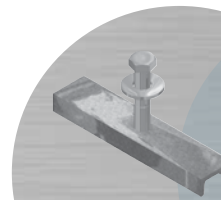
The channel frame, an integral required part of the drain system, is available in either plated steel or stainless steel.

Outlet Adapter



Bottom Outlet Adapter*
Part No. DA3000S
Material - PVC

Grate Hold-Down Device



Grate Hold-Downs
Part No. DA3042B
Zinc-plated Steel

Channel Coupler



Channel Coupler
Part No. DA3000C
Material - ABS

End Caps



End Cap Adapters with cut-out diaphragms (glueable to PVC pipe)
Part No. DA3000A
Material - ABS

Channel couplers and end cap adapters are ABS plastic. The specially designed end cap adapter can be used to close off the system, or the diaphragm can be cut out to allow connections to standard 8" PVC pipe.

* Installation Instructions (if applicable) - Place bottom outlet adapter in desired location and mark channel for pipe cutout. For best results, cut channel with jig saw. Attach bottom outlet adapter with two sheet rock screws.

3000 SERIES

POLYCAST® Sample Specifications

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General: The work specified in this section shall consist of furnishing and installing preformed trench drains including drain channels, frames, grates, and accessories as shown on the contract plans. The surface drainage system shall consist of 3000 Series Extra High Capacity Trench Drain. One manufacturer shall provide all drain components unless noted otherwise at piping connections. The number of component joints shall be minimized for products in this section.

Materials: The preformed trench drain shall be a polyester matrix as shown on the contract plans. The bottom dimensions shall be 8.63" inside to match 8" diameter pipe with lateral sidewall transitions and shall have a full radius. The frame shall fully support the grate and transfer vertical loads linearly into adjacent concrete. Sloped and non-sloped channels shall be used as shown in contract plans. Channels shall be 8' long. Sloped channels shall have an inverted slope of 0.5%, 0.75%, 1%, or 1.25% as determined by the contract plans. Maximum capacity without extensions shall be 3000 GPM at flat and level grade. The channels shall permit a continuously sloped run of up to 240' without extensions.

The polymer concrete shall have minimum material properties as follows:

DESCRIPTION	TEST METHOD	VALUES
Water absorption:	ASTM 5-570	<1%
Chemical resistance:	ASTM D-543	75% strength, <2% change in weight/dimension
Accelerated service	ASTM D-7566-E	75% strength, <2% change in weight/dimension
CTE (coefficient of thermal expansion)	ASTM D-696	4.4x10 ⁻⁶ in/in/°F

Grates and Frames: The grating and frames shall be made of steel (ASTM A-36), ductile iron (ASTM A-536 minimum grade 65-45-12), or gray iron (ASTM A-48) and meet AASHTO HS-20 and FAA load requirements. The frames shall be non-removable from the concrete. The grates shall be removable or non-removable as shown on the contract plans. The removable grates shall have threaded bolt lockdowns that do not unduly impede fluid flow in the channel. The lockdowns shall withstand cyclical loads of 700 pounds after salt exposure per ASTM B-517. Non-removable grates shall have integrally cast anchoring lugs with terminus interlock.

Installation: The manufacturer's installation recommendations shall be followed. The reinforcement in the concrete surrounding the drain shall be adequate for the anticipated loads. The trench drain shall not be used in place of a defacto expansion joint.