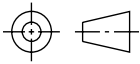
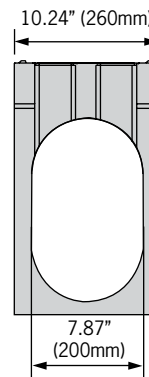
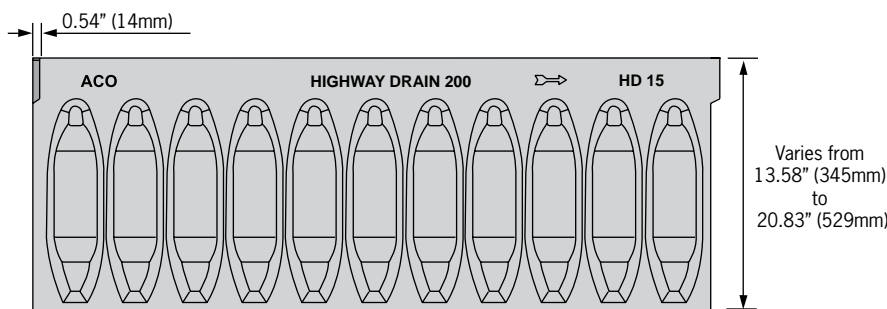
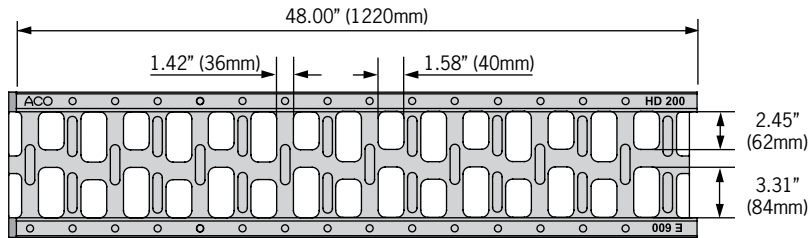




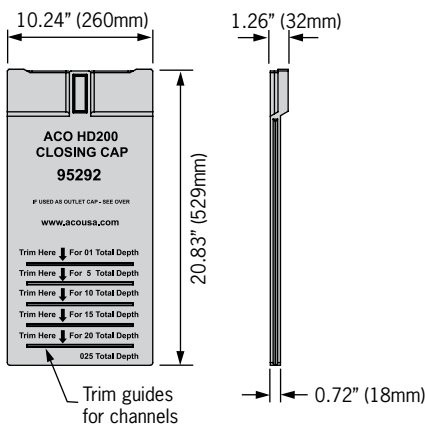
HighwayDrain



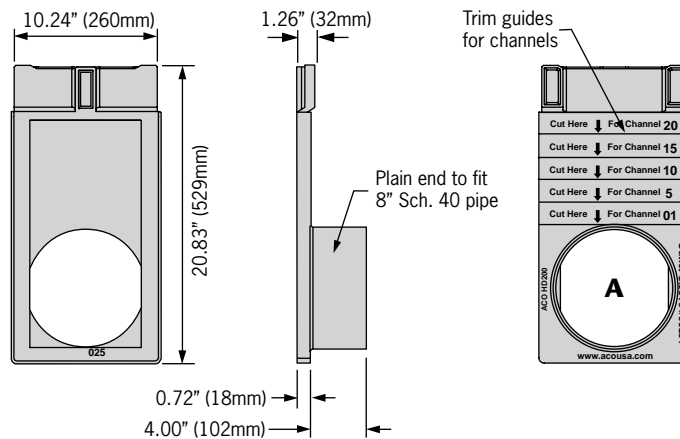
Channel



Closing Cap



Outlet Cap



Note: Outlet cap is a two part sliding unit to account for all depths

ACO Specification Information

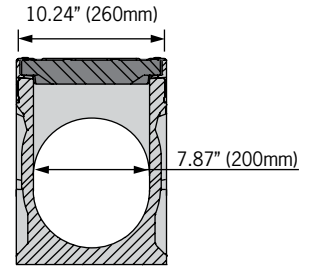
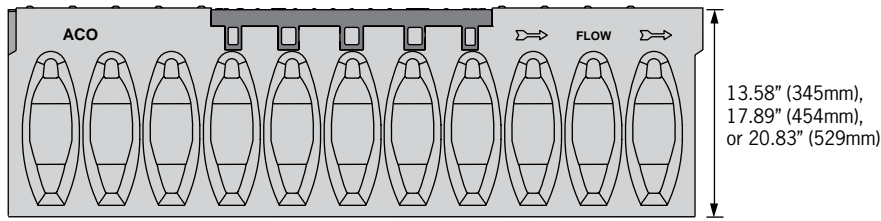
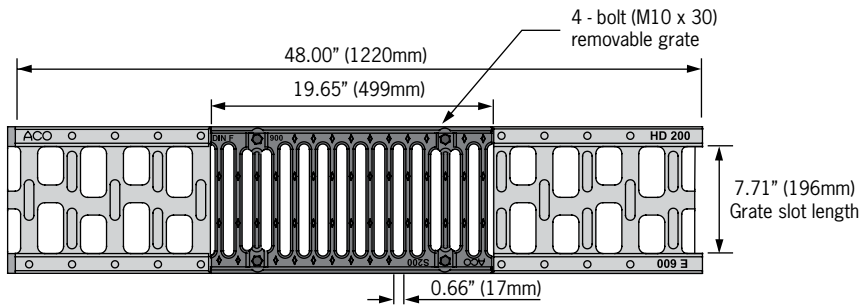


HighwayDrain Trench Drain System

Access Channel



ACO Specification Information



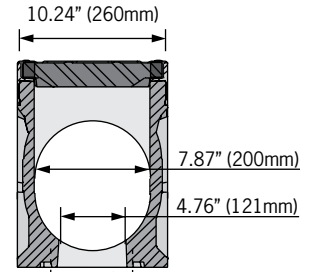
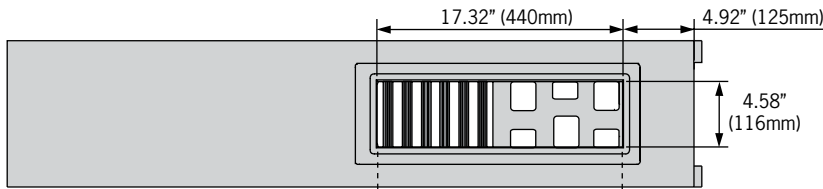
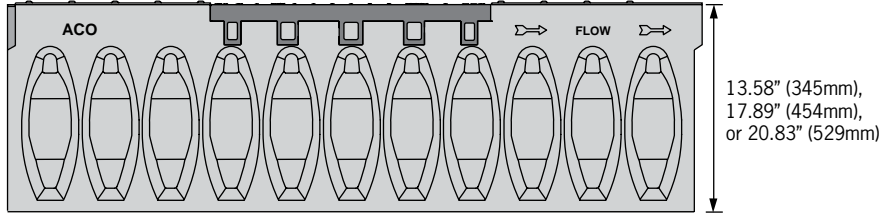
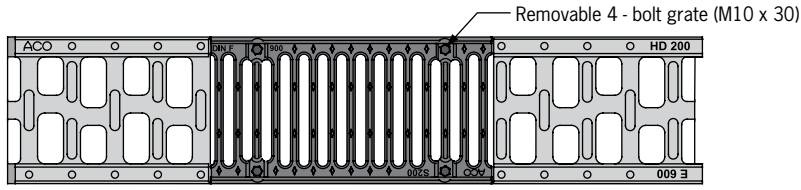
Channel Outlet Flow Rates

Outlet	Outlet Type	Outlet Size	Outlet From	Invert Depth	GPM	CFS
A	Outlet cap	8" Sch 40	HD01	12.52"	673	1.55
A	Outlet cap	8" Sch 40	HD025	19.88"	892	2.05
B	Vertical flume	8" Sch 40	HD01	19.20"	953	2.12
B	Vertical flume	8" Sch 40	HD025	26.45"	1,119	2.49
C	Horizontal flume	8" Sch 40	HD01	33.04"	1,172	2.61
C	Horizontal flume	8" Sch 40	HD025	40.29"	1,311	2.92
D	Vertical flume	12" Sch 40	HD01	19.20"	2,145	4.78
D	Vertical flume	12" Sch 40	HD025	26.45"	2,518	5.61
E	Horizontal flume	12" Sch 40	HD01	33.04"	2,546	5.67
E	Horizontal flume	12" Sch 40	HD025	40.29"	2,867	6.39

Note:

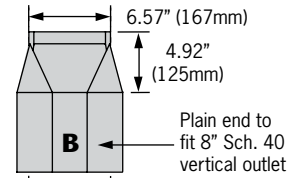
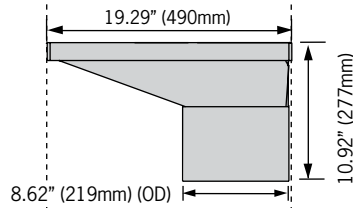
1. These are the pipe flow rates at the specified outlet, **NOT** channel flow rates.

Outlet Channel



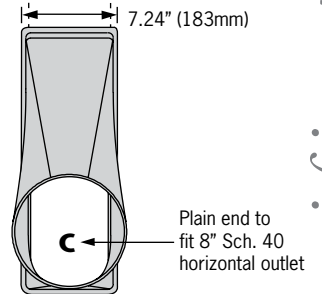
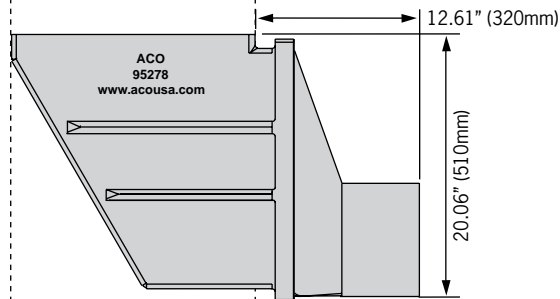
Hole in outlet channel only

Flume Outlet - 8" Vertical



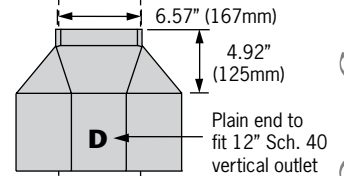
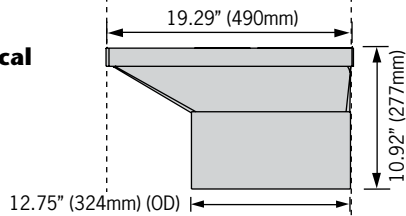
Plain end to fit 8" Sch. 40 vertical outlet

Flume Outlet Kit - 8" Horizontal



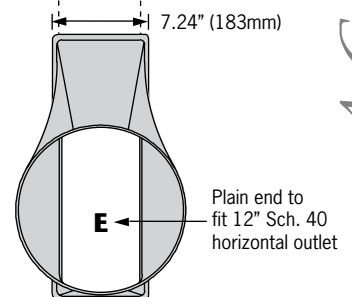
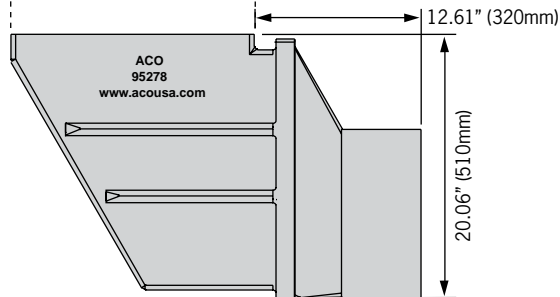
Plain end to fit 8" Sch. 40 horizontal outlet

Flume Outlet - 12" Vertical



Plain end to fit 12" Sch. 40 vertical outlet

Flume Outlet Kit - 12" Horizontal



Plain end to fit 12" Sch. 40 horizontal outlet

ACO Specification Information

HighwayDrain - Part List

Description	Part No	Length		Invert Depth - female		Invert Depth - male		Weight lbs
		inches	mm	inches	mm	inches	mm	
HD01 Neutral channel	95250	48.00	1,220	12.52	318	12.52	318	241.0
HD01 Access channel	95317	48.00	1,220	12.52	318	12.52	318	243.0
HD01 Outlet channel	95326	48.00	1,220	12.52	318	12.52	318	233.0
HD1 Sloping channel	95253	48.00	1,220	12.52	318	12.83	326	241.0
HD2 Sloping channel	95255	48.00	1,220	12.83	326	13.11	333	242.7
HD3 Sloping channel	95259	48.00	1,220	13.11	333	13.43	341	244.3
HD4 Sloping channel	95254	48.00	1,220	13.43	341	13.70	348	246.0
HD5 Sloping channel	95258	48.00	1,220	13.70	348	13.98	355	247.6
HD6 Sloping channel	95257	48.00	1,220	13.98	355	14.29	363	249.3
HD7 Sloping channel	95252	48.00	1,220	14.29	363	14.57	370	250.9
HD8 Sloping channel	95251	48.00	1,220	14.57	370	14.88	378	252.6
HD9 Sloping channel	95256	48.00	1,220	14.88	378	15.16	385	254.2
HD10 Sloping channel	95263	48.00	1,220	15.16	385	15.47	393	255.9
HD11 Sloping channel	95265	48.00	1,220	15.47	393	15.75	400	257.5
HD12 Sloping channel	95267	48.00	1,220	15.75	400	16.06	408	259.2
HD13 Sloping channel	95262	48.00	1,220	16.06	408	16.34	415	260.8
HD14 Sloping channel	95269	48.00	1,220	16.34	415	16.61	422	262.5
HD15 Sloping channel	95266	48.00	1,220	16.61	422	16.93	430	264.1
HD015 Neutral channel	95261	48.00	1,220	16.93	430	16.93	430	264.1
HD015 Access channel	95328	48.00	1,220	16.93	430	16.93	430	266.1
HD015 Outlet channel	95327	48.00	1,220	16.93	430	16.93	430	256.1
HD16 Sloping channel	95264	48.00	1,220	16.93	430	17.20	437	265.8
HD17 Sloping channel	95260	48.00	1,220	17.20	437	17.52	445	267.4
HD18 Sloping channel	95268	48.00	1,220	17.52	445	17.80	452	269.1
HD19 Sloping channel	95275	48.00	1,220	17.80	452	18.11	460	270.7
HD20 Sloping channel	95272	48.00	1,220	18.11	460	18.39	467	272.4
HD21 Sloping channel	95274	48.00	1,220	18.39	467	18.70	475	274.0
HD22 Sloping channel	95270	48.00	1,220	18.70	475	18.98	482	275.7
HD23 Sloping channel	95277	48.00	1,220	18.98	482	19.29	490	277.3
HD24 Sloping channel	95273	48.00	1,220	19.29	490	19.57	497	279.0
HD25 Sloping channel	95276	48.00	1,220	19.57	497	19.88	505	280.6
HD025 Neutral channel	95271	48.00	1,220	19.88	505	19.88	505	280.6
HD025 Access channel	95329	48.00	1,220	19.88	505	19.88	505	282.6
HD025 Outlet channel	95322	48.00	1,220	19.88	505	19.88	505	272.6
Accessories								
Flume outlet PP - 8" vertical	95279	-	-	-	-	-	-	2.4
Flume outlet kit PP - 8" horizontal	95290	-	-	-	-	-	-	7.5
Flume outlet PP - 12" vertical	95285	-	-	-	-	-	-	4.5
Flume outlet kit PP - 12" horizontal	95287	-	-	-	-	-	-	9.6
Closing cap PP	95292	-	-	-	-	-	-	1.8
Outlet cap kit PP - 8" Sch 40	95293	-	-	-	-	-	-	3.5
HD200 installation device	95284	-	-	-	-	-	-	3.3

Notes:

1. Add nominal 1" (25mm) to invert depth for overall trench unit depth
2. Closing & outlet caps can be cut down for use with smaller trench units
3. Horizontal flumes are two piece unit
4. Outlet caps are two piece unit

Specifications

General

The surface drainage system shall be ACO INFRASTRUCTURE HighwayDrain as manufactured by ACO, Inc. or equal approved.

Materials

The trench system bodies shall be manufactured from polyester polymer concrete with minimum properties as follows:

Compressive strength: 14,000 psi
 Flexural strength: 4,000 psi
 Water absorption 0.07%
 Frost proof
 Salt proof - B117 Salt Spray Test compliant
 Dilute acid and alkali resistant

The nominal clear opening shall be 7.87" (200mm) with overall width of 10.24" (260mm). Modular units shall be manufactured with either an invert slope of 0.6% or with neutral invert and have a wall thickness of at least 0.75" (19mm). Each unit will feature a full radius in the trench bottom and a male to female interconnecting end profile. Units shall have cast in anchoring features on the outside wall to ensure maximum mechanical bond to the surrounding bedding material and pavement surface. Trench system shall be certified to load class E600 as defined by EN 1433 or able to withstand loadings up to 2,323 psi.

Grates

Grate openings shall be monolithically cast as part of the trench drain body as a single piece. Grate openings provide 30% (36.20 sq. ins. per linear ft.) open area for maximum hydraulic efficiency. Access shall be via ductile iron 4-bolt access covers on all access and outlet channels. Access grate bolts are stainless steel M10 x 30.

Installation

The trench drain system shall be installed in accordance with the manufacturer's installation instructions and drawings.

An electronic version of the specification clause and installation section drawings are available on-line at www.acoinfrastructure.us/resources.html

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