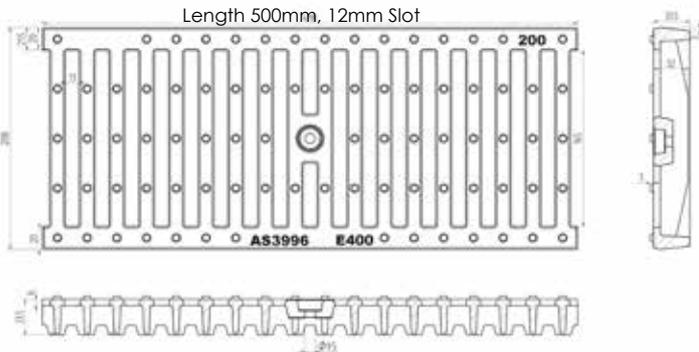


HEAVY DUTY 200 SERIES									
SECTION ID	SECTION MEASUREMENT				SECTION POSITION		SECTION HYDRAULICS <sup>3</sup>		
<b>River (R) - Variable Built-in-Fall</b>									
Sections	Weight Excl. Grate (Kg's)	Length (Metres)	Start Invert (mm)	End Invert (mm)	Previous Upstream Section	Next Downstream Section	Built-in-Fall (%)	Max Design Velocity (M/s)	Max Design Flow Rate (L/s) <sup>1</sup>
HD200 R1-0.5	4.0	0.5	163	172	-	R2 or T2 <sup>4</sup>	1.50%	-	-
HD200 R1-1.0	9.0	1.0	155	172	-	R2 or T2 <sup>4</sup>	1.50%	-	-
HD200 R1-1.5	12.5	1.5	148	172	-	R2 or T2 <sup>4</sup>	1.50%	-	-
HD200 R1-2.0	17.0	2.0	140	172	-	R2 or T2 <sup>4</sup>	1.50%	-	-
HD200 R1-2.5	22.0	2.5	133	172	-	R2 or T2 <sup>4</sup>	1.50%	-	-
HD200 R1-3.0	26.0	3.0	125	172	-	R2 or T2 <sup>4</sup>	1.50%	1.4	26
R1 Sections (0.5m multiples) are used to vary overall length <sup>4</sup>									
HD200 R2-3.0	26.5	3.0	172	204	R1	R3	1.00%	1.3	29
HD200 R3-3.0	27.0	3.0	204	229	R2	R4	0.75%	1.1	31
<b>(Z3) Zero Fall Section Length Extender can be inserted here <sup>2</sup></b>									
HD200 R4-3.0	27.5	3.0	229	249	R3	R5 or T5 <sup>8</sup>	0.63%	1.1	33
HD200 R5-3.0	28.0	3.0	249	269	R4 or T2 <sup>4</sup>	R6	0.60%	1.1	36
HD200 R6-3.0	32.0	3.0	269	289	R5	R7	0.58%	1.0	40
HD200 R7-3.0	33.0	3.0	289	307	R6	R8	0.56%	1.0	43
HD200 R8-3.0	33.5	3.0	307	326	R7	R9 or T9 <sup>13</sup>	0.55%	1.1	47
HD200 R9-3.0	34.0	3.0	326	344	R8 or T5 <sup>8</sup>	R10	0.54%	1.1	50
HD200 R10-3.0	34.5	3.0	344	362	R9	R11	0.53%	1.1	54
HD200 R11-3.0	35.0	3.0	362	380	R10	R12	0.52%	1.1	57
HD200 R12-3.0	35.5	3.0	380	397	R11	R13	0.51%	1.1	60
HD200 R13-3.0	36.0	3.0	397	414	R12	R14	0.50%	1.1	65
HD200 R14-3.0	39.0	3.0	414	431	R13 or T9 <sup>13</sup>	R15	0.50%	1.1	68
HD200 R15-3.0	40.0	3.0	431	448	R14	R16	0.50%	1.1	73
HD200 R16-3.0	41.0	3.0	448	465	R15	-	0.50%	1.1	78
<b>Torrent (T) Self Cleansing - Super Steep Built-in-Fall.</b>									
Sections	Weight Excl. Grate (Kg's)	Length (Metres)	Start Invert (mm)	End Invert (mm)	Previous Upstream Section	Next Downstream Section	Built-in-Fall (%)	Max Design Velocity (M/s)	Max Design Flow Rate (L/s) <sup>1</sup>
HD200 T2 <sup>4</sup> -3.0	27.5	3.0	172	249	R1	T5 <sup>8</sup> or R5	2.51%	2.0	45
HD200 T5 <sup>8</sup> -3.0	30.0	3.0	249	326	T2 <sup>4</sup> or R4	T9 <sup>13</sup> or R9	2.49%	2.1	70
HD200 T9 <sup>13</sup> -3.0	35.0	3.0	326	414	T5 <sup>8</sup> or R8	R14	2.87%	2.4	115
<b>Zero Fall Shallow (Z1) - 125mm Invert</b>									
Sections	Weight Excl. Grate (Kg's)	Length (Metres)	Start Invert (mm)	End Invert (mm)	Previous Upstream Section	Next Downstream Section	Built-in-Fall (%)	Max Design Velocity (M/s)	Max Design Flow Rate (L/s) <sup>1</sup>
HD200 Z1-3.0	20.0	3.0	125	125	-	R1	0.00%	-	-
<b>Zero Fall Section Length Extender (Z3) - 229mm Invert</b>									
Sections	Weight Excl. Grate (Kg's)	Length (Metres)	Start Invert (mm)	End Invert (mm)	Previous Upstream Section	Next Downstream Section	Built-in-Fall (%)	Max Design Velocity (M/s)	Max Design Flow Rate (L/s) <sup>1</sup>
HD200 Z3-0.5	4.5	0.5	229	229	R3	R4	0.00%	-	-
HD200 Z3-2.0	18.0	2.0	229	229	R3	R4	0.00%	-	-
HD200 Z3-3.0	27.5	3.0	229	229	R3	R4	0.00%	-	-

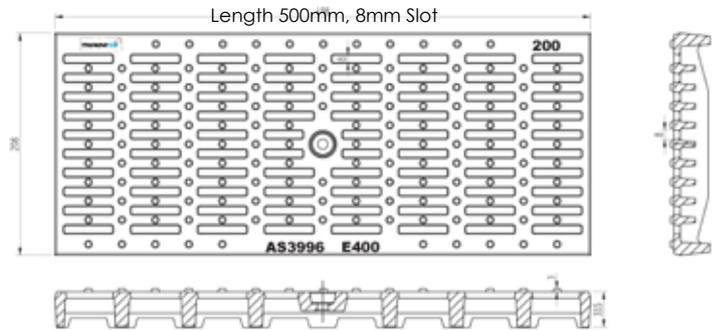
**POWERED COATED DUTILE IRON GRATING**

**Cross Flo Grating – Medium Flow Rate (200 CFG)**



LOAD RATED E400 (AS3996) – TESTED BY OPUS LABORATORIES N.Z.	
MAX FLOW RATE	One side 4.4 L/s/m
	Two sides 9.2 L/s/m

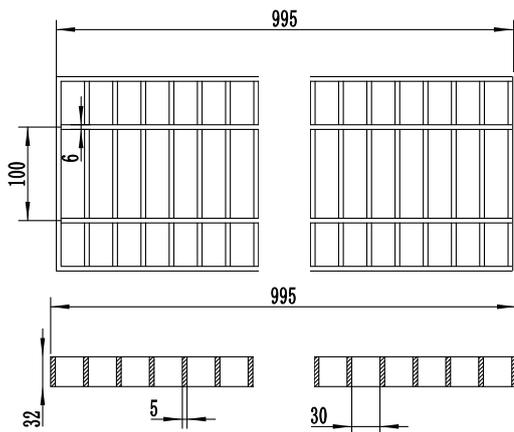
**Shoe-guard Grating – Heel Guard Compliant (200 SGG)**



RATED E400 (AS3996) – TESTED BY OPUS LABORATORIES N.Z.	
MAX FLOW RATE	One side 2.13 L/s/m
	Two sides 2.13 L/s/m

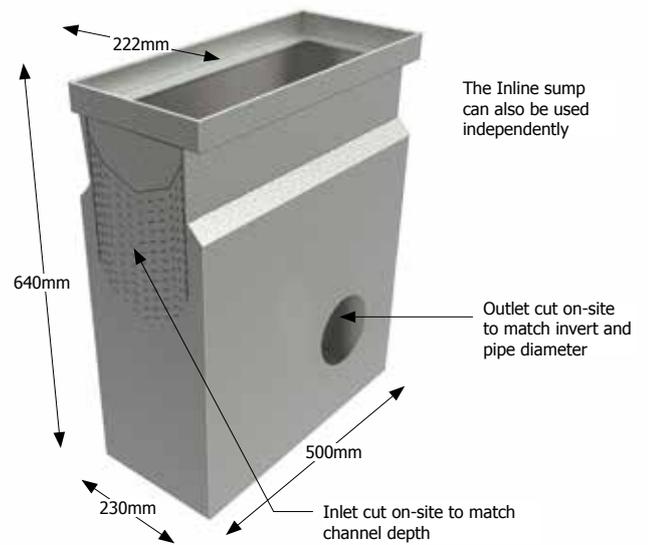
**GALVANISED MESH GRATING (200 GMG)**

**Hi-Flo Grating - High Flow Rate**



RATED D210 (AS3996) – TESTED BY OPUS LABORATORIES	
MAX FLOW RATE	One side 10.5 L/s/m
	Two sides 18.0 L/s/m

**INLINE SUMP (200 ILS)**



**INSTALLATION GUIDE**

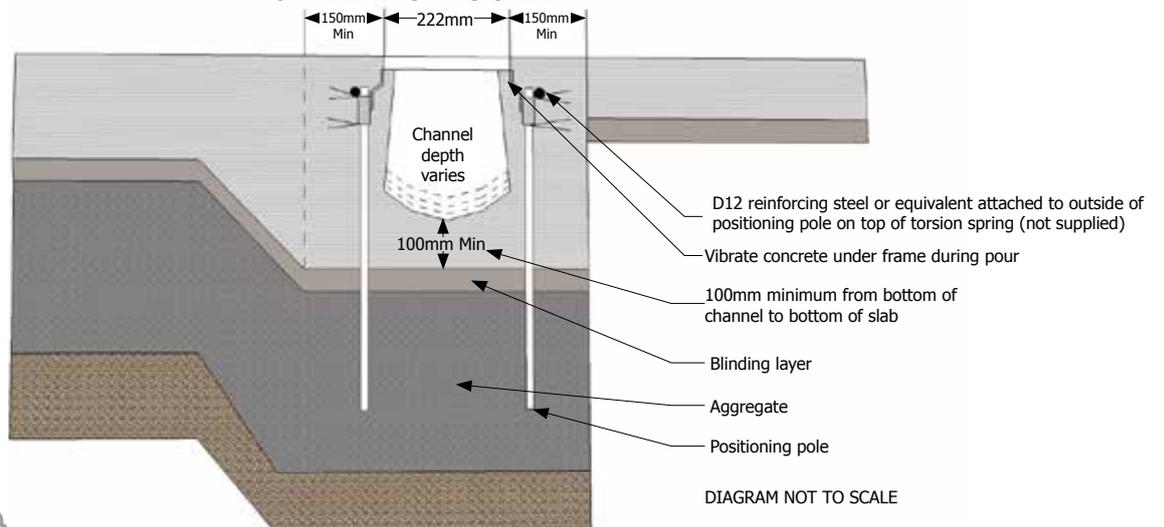


DIAGRAM NOT TO SCALE