

Steinbach Water Injection Discussion Paper
Selection of the Proper Water Volume

Part #1 Snow Readings

Enter Weight of Snow Sample (W)	350	in	Kg/M ³	From Sampling Tube
Enter Humidity of the Air (ml)	60	in	%	From Weather Station
Enter Humidity of the Snow (m²)	30	in	%	From Hygrometer Reading
Totals of the Above (W+ml+m²=T1)	440		Total T1	(Calculated)

Part #2 Discipline Factor (Ff) (Fudge factor)

Discipline	Density Target		(Ff)
Downhill	550 Kg/M ³	DH	0.400
Super G	568 Kg/M ³	SG	0.425
Giant Slalom	585 Kg/M ³	GS	0.450
Slalom	620 Kg/M ³	SL	0.500
Snowboard	533 Kg/M ³	SB	0.350

Select Discipline Type

(Ff) Number & Enter In Box Below

Ff= 0.500

Part #3 Water Calculation

Standard Factor				900	This SF Constant Never Changes
Subtract Total of Measured Snow (T1)				440	This is calculated Above
Subtotal (SF - T1)				460	This is Standard (-) Measured Snow
Multiplication Factor For Discipline (Ff)				230	This is Calculated using Ff Above
Water Volume for Selection in Litres/Minute				230	Use this Litre Flow calculation to

select Nozzle using Tables Below

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Part #4 Nozzle Selection

NOTE: When selecting the nozzle use the available pressure at the beam as your guide.

For example, if you end up with a selected volume of 170 litres and you have between 3 to 5 bar of pressure to work with (45 to 75 psi / 304 to 506 kPa) select the smallest (green) nozzle and work in the middle of that range.

Small Nozzle **GREEN** 2 mm

Bar	0.5	1	2	3	4	5	6	7	8	9	10
Litres	50	80	110	140	170	200	230	260	290	320	350

Medium Nozzle **RED** 2.5 mm

Bar	0.5	1	2	3	4	5	6	7	8	9	10
Litres	90	140	190	240	290	340	390	440	490	540	590

High Energy Nozzle **SILVER**

Bar	0.5	1	2	3	4	5	6	7	8	9	10
Litres	27	45	63	81	100	118	136	154	172	190	210

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