

FERTILISER INJECTORS

MAZZEI VENTURI FERTILISER INJECTORS -

15MM - 50MM

Mazzei Injectors (patented) are extremely efficient, compact differential injection devices. Currently operating successfully in thousands of installations worldwide. Mazzei Injectors offer a reliable, accurate and economical method to inject virtually any liquid or gas substance into a pressurized fluid stream.

APPLICATION

The highly versatile Mazzei Injectors are suitable for a wide variety of applications -

Agriculture

Ag Irrigation Systems - to inject fertilizers and other chemicals or water treatment additives.

Ag Spray Systems - for mixing and/or the transfer of concentrated pesticide materials.

Food Processing - for water chlorination, injection of detergents, bacterial agents and other water treatment purification additives.

Home and Garden

Irrigation Systems - for application of liquid fertilizer through landscape sprinkler or drip irrigation systems, hose end sprinklers and/or spray nozzles. (Check local guides)

Industrial/Commercial

Water Treatment - to inject air, liquids, gases (ozone) and other water purification chemicals for cooling tower or other water or fluid recirculatory systems, waste water systems and potable water systems.

Washing and Cleaning - to inject detergents, solvents and other cleaning agents into carpet cleaning equipment, car wash systems, dishwashing equipment and other industrial cleaning processes.



FI_MAZZEI_V1.05-20









FERTILISER INJECTORS

MAZZEI VENTURI FERTILISER INJECTORS -

15MM - 50MM

FEATURES

- Molded from high quality thermoplastics with superior strength, high temperature capability and resistant to most chemicals
- No moving parts, low maintenance trouble-free operation
- Unique design allows maximum cavitation in the injection chamber, thereby providing instantaneous mixing
- · Ideally suited for continuous mixing functions, requires no secondary blending devices
- Initial cost and installation cost are low
- · Powered by the motive fluid, no external energy required for most installations
- · Available in a broad range of sizes, flows and injection capacities

**Please note it is strongly recommended that a pressure gauge be fitted on either side of the injector

MAZZEI VENTURI FERTILIZER INJECTOR SPARE PARTS

Suction Kit



Ball / Spring & Washer



MODELS	CODE
7.8lph Mazzei Venturi Fertiliser Injector - 15mm	HR283
38.4lph Mazzei Venturi Fertiliser Injector - 15mm	HR384
48lph Mazzei Venturi Ferliser Injector - 15mm	HR484
PVDF Mazzei Venturi Fertiliser Injector - 20mm Suitable for chlorine, sulphuric and nitric acids Resistant to ozone	484X
81.6lph Mazzei Venturi Fertiliser Injector - 20mm	HR584
212.4lph Mazzei Venturi Fertiliser Injector - 25mm	HR878
327lph Mazzei Venturi Fertiliser Injector - 25mm	HR1078
652.8lph Mazzei Venturi Fertiliser Injector - 40mm	HR1583A
4716lph Mazzei Venturi Fertiliser Injector - 50mm	HR2081A

MODELS	CODE
Suction Kit suits HR283, HR384, HR484 & HR584	HRK184
Suction Kit suits HR878, HR1078 & HR1583A	HRK183
Suction Kit suits HR2081A	HRK282

MODELS	CODE
Ball & Washer for HR383, HR484, HR584	CR2
Ball / Spring & Washer for HR878, HR1078	CR3

FI_MAZZEI_V1.05-20









infonsw@hrproducts.com.au

infoqld@hrproducts.com.au

 $^{^{\}star}$ Injection flow rates for Mazzei Injectors based on 350kPa inlet with 211kPa on outlet



FERTILISER INJECTORS

MAZZEI VENTURI FERTILISER INJECTORS -

15MM - 50MM

Information needed to select an Injector -

1. INLET PRESSURE (Upstream Pressure Available) -

What is the pressure upstream from the injector?

2. MOTIVE FLOW RATE (Flow through the Injector) -

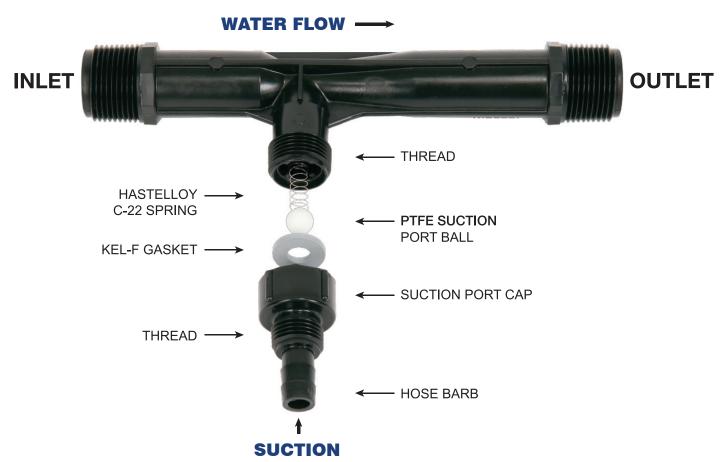
How much water needs to go through the injector?

3. OUTLET PRESSURE (Downstream Pressure) -

What pressure will the Injector see downstream after installation?

4. INJECTION RATE (Suction Rate) -

How much do you want to inject?



FI_MAZZEI_V1.05-20

www.hrproducts.com.au









FERTILISER INJECTORS

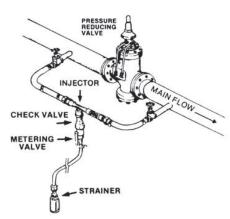
MAZZEI VENTURI FERTILISER INJECTORS -

15MM - 50MM

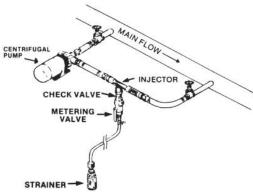
How the Mazzei Fertilizer Injector works:

When pressurized, operating (motive) fluid enters the Injector inlet, it is constricted toward the injection chamber and changes into a high velocity jet stream. The increase in velocity through the injection chamber results in a decrease in pressure, thereby enabling an additive material to be drawn through the suction port and entrained into the motive stream. As the jet stream is diffused toward the injector outlet, its velocity is reduced and it is converted into pressure energy (but at a pressure lower than the injector inlet pressure.)

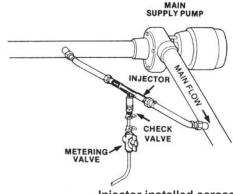
Typical Installations



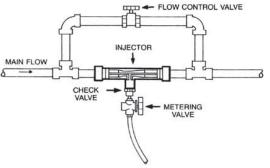
Injector installed around a point of restriction such as a regulator valve or gate valve which creates a differential pressure, thereby allowing the injector to produce a vacuum.



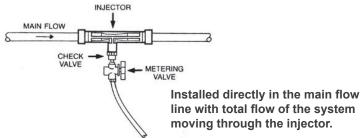
Installed in conjunction with a centrifugal pump to boost pressure through the injector thereby creating a differential pressure and producing a vacuum for chemical induction downstream from the pump.



Injector installed across the differential pressure created by an existing booster or supply pump in the system. It is plumbed from the discharge side to the intake side of the pump.



Injector installed in main flow line with flow control valve on by-pass line.



FI_MAZZEI_V1.05-20

www.hrproducts.com.au







infoqld@hrproducts.com.au



FERTILISER INJECTORS

	INJECTOR PERFORMANCE TABLE																		
	rating ssure					Sı	uction Ca	apacity	of Mazze	i Injecto	ors at Va	rious Op	perating	Conditi	ons				
		HR283 HR384 15mm 15mm			HR484 484X 15mm 20mm			HR584 HR878 20mm 25mm					1078 mm		1583 mm	HR2081A 50mm			
Inlet kPa	Outlet kPa	Motive Flow Ipm	Liquid Suction Ipm	Motive Flow Ipm	Liquid Suction Ipm	Motive Flow Ipm	Liquid Suction Ipm	Motive Flow	Liquid Suction Ipm	Motive Flow Ipm	Liquid Suction Ipm	Motive Flow Ipm	Liquid Suction Ipm	Motive Flow	Liquid Suction Ipm	Motive Flow Ipm	Liquid Suction Ipm	Motive Flow Ipm	Liquid Suction Ipm
	0		0.20		0.65		0.92		1.4		1.8		3.9		6.4		8.5		39.7
35	7 14 21	0.64	0.13 0.06	2.7	0.54 0.47 0.32	4.5	0.65 0.42	4.5	1.0 0.75 0.46	7.9	1.8 1.7 1.6	13.8	2.2 1.5 0.46	20.7	2.9 1.3 0.17	40.6	5.3 3.3	123	39.7 39.7 13.5
	28	*(0.25)		*(0.27)	0.02	*(0.31)		*(0.25)	0.40	*(0.31)	0.63	*(0.28)	0.40	*(0.28)	0.17	*(0.31)		*(0.32)	8.5
70	0 14 35	0.91	0.30 0.18 0.07	3.8	0.96 0.72 0.48	6.4	1.1 0.88 0.38	6.4	1.8 1.4 0.74	11.2	1.7 1.7 1.7	19.5	5.9 3.9 2.3	29.3	6.6 4.7 2.6	57.4	13.8 9.0 4.9	174	39.7 39.7 29.5
	49 56	*(0.49)		*(0.58)	0.13	*(0.59)	0.17	*(0.53)	0.23	*(0.63)	0.83	*(0.61)	0.99	*(0.57)	1.2 0.27	*(0.61)	2.6	*(0.63)	9.4
	0 35		0.34		0.84		1.1 0.72		1.3		1.7 1.7		5.5 3.9		6.3 5.0		14.2		39.7 39.3
105	49 70	1.1	0.11	4.6	0.53	7.8	0.52	7.8	0.98	13.7	1.7 0.88	23.9	2.8 1.4	35.9	4.0 2.1	70.3	7.8 5.4	213	36.3 13.4
	84	*(0.74)		*(0.91)	0.00	*(0.88)		*(0.61)		*(0.95)	0.69	*(0.88)	0.45	*(0.92)	1.0	*(0.91)	0.92	*(0.94)	4.8
141	0 35 70	1.2	0.37 0.23 0.13	5.4	0.82 0.83 0.58	9.0	1.1 0.98 0.59	9.0	2.4 1.7 0.84	15.8	1.5 1.5 1.4	27.6	5.2 5.0 3.0	41.4	6.1 6.0 4.4	81.2	14.3 12.9 9.0	245	39.7 39.7 29.5
	84	*(1.05)	0.03	*(1.16)	0.40	*(1.20)	0.49	*(0.93)	0.53	*(1.27)	1.2	*(1.16)	2.1	*(1.22)	3.2	*(1.26)	8.3	*(1.23)	18.8
	105 0 35	(1.03)	0.37 0.20	(1.10)	0.89	(1.20)	1.1	(0.33)	2.4 2.0	(1.27)	0.92 1.5 1.5	(1.10)	1.3 5.1 5.1	(1.22)	1.9 6.0 6.0	(1.20)	4.1 14.3 14.2	(1.23)	9.5 39.7 39.7
176	70 105 141	1.3 *(1.30)	0.16 0.04	6.0 *(1.44)	0.80 0.42	10.1 *(1.52)	0.86 0.46	10.1 *(1.16)	1.3 0.62	17.7 *(1.55)	1.5 1.3 0.76	30.9 *(1.48)	4.6 2.8 1.2	46.3 *(1.54)	5.6 4.3 2.0	90.8 *(1.55)	12.2 9.3 3.0	274 *(1.57)	39.5 25.4 8.4
	0	(1100)	0.38	(,	0.89	(1102)	1.0	(1116)	2.5	(1100)	1.5	(1110)	5.0	(1101)	5.9	(1100)	14.2	(1101)	39.7
0.1.1	35		0.37		0.91		1.0		2.4		1.6		4.9		5.9		14.2	201	39.7
211	70 105	1.5	0.24 0.15	6.6	0.87 0.67	11.1	1.0 0.71	11.1	1.8 1.0	19.4	1.5 1.5	33.9	4.8 4.1	50.8	5.9 5.1	99.4	13.3 10.5	301	39.7 32.2
	141 176	*(1.58)	0.05	*(1.77)	0.28	*(1.79)	0.44	*(1.20)		*(1.90)	1.1 0.72	*(1.84)	2.2 0.57	*(1.83)	3.4 1.1	*(1.83)	7.9 1.1	*(1.83)	21.5 3.9
	0		0.38		0.91		1.0		2.5		1.6		5.0		5.9		14.3		39.7
246	35 70	1.5	0.38	7.1	0.91	11.9	1.0	11.9	2.4	20.9	1.6 1.6	36.6	5.0 4.8	54.8	5.9 5.9	107	14.2 14.1	325	39.7 39.7
240	105	1.5	0.30	,ı	0.86	11.3	1.0	11.3	1.5	20.5	1.5	30.0	4.7	34.0	5.7	107	12.9	323	39.5
	141	*(1.83)	0.11	*(2.01)	0.59	*(2.07)	0.70	*(1.65)	0.93	*(2.22)	1.3	*(2.12)	3.3	*(2.11)	4.6	*(2.07)	10.4	*(2.14)	29.0
	176 0	(1.03)	0.03	(2.01)	0.18	(2.07)	0.25 1.0	(1.03)	2.5	(2.22)	1.0 1.6	(2.12)	1.9 4.8	"(2.11)	2.9 5.8	(2.07)	5.6 14.3	(2.14)	16.1 39.7
	35		0.38		0.89		1.1		2.4		1.6		4.8		5.8		14.4		39.7
281	70 105	1.6	0.35	7.6	0.88	12.8	1.0	12.8	2.4 1.8	22.4	1.6 1.6	39.1	4.8 4.8	58.6	5.8 5.8	115	14.3	347	39.7 39.7
	141		0.16		0.79		0.96		1.3		1.5		4.6		5.7		12.1		33.0
	176 211	*(2.07)	0.07	*(2.25)	0.47	*(2.34)	0.71 0.25	*(1.84)	0.41	*(2.50)	1.3 0.94	*(2.42)	3.1 1.7	*(2.42)	4.5 2.6	*(2.35)	9.6 5.1	*(2.36)	24.8 10.6
	0	(_101)	0.38	(2,20)	0.86	(2100)	1.0	(1100)	2.6	(2100)	1.6	(5.0	(21-12)	5.8	(2.00)	14.3	(_100)	39.7
	35		0.38		0.87		1.0		2.4		1.6		5.0		5.8		14.4		39.7
	70 105		0.37		0.87		1.1		2.3		1.6 1.6		5.0 5.0		5.8 5.8		14.3 14.1		39.7 39.7
316	141	1.7	0.21	8.0	0.87	13.5	1.0	13.5	1.6	23.7	1.6	41.5	4.9	62.2	5.9	122	13.4	368	38.2
	176 211		0.17		0.76 0.38		0.87		1.1		1.4 1.2		4.2 2.7		5.4 4.1		11.0 7.1		32.0 21.5
	246	*(2.35)	0.00	*(2.54)	0.00	*(2.59)	0.04	*(1.78)		*(2.81)	0.85	*(2.70)	1.3	*(2.72)		*(2.64)	2.9	*(2.67)	9.4
	0		0.38		0.89		1.0		2.6		1.6		4.7		5.8		14.3		39.7
	35 70		0.38		0.89		1.0 1.1		2.5 2.4		1.6 1.6		4.7 4.7		5.8 5.8		14.3 14.2		39.7 39.7
	105		0.36		0.89		1.1		2.3		1.6		4.7		5.8		14.2		39.7
352	141 176	1.8	0.30	8.5	0.85	14.3	1.1	14.3	1.8 0.51	25.0	1.6 1.5	43.7	4.7 4.3	65.5	5.8 5.8	128	14.1 12.8	388	39.7 37.0
	211		0.13		0.63		0.80		0.01		1.3		3.5		5.4		10.8		28.5
	246 281	*(2.60)	0.04	*(2.78)	0.38	*(2.88)	0.49	*(2.04)		*(3.16)	0.99	*(2.97)	2.3 0.60	*(3.09)	4.0 2.2	*(2.95)	7.6 2.5	*(2.92)	18.9 7.2

*Numbers in parenthesis indicate the injector outlet pressure when suction stops (Zero Suction Point).

FI_MAZZEI_V1.05-20

www.hrproducts.com.au









FERTILISER INJECTORS

								INJECT	OR PER	FORMA	NCE TAI	BLE							
	rating ssure					Sı	uction Ca	apacity	of Mazze	ei Injecto	rs at Va	rious Or	perating	Conditi	ons				
					HR384 HR484 15mm 15mm				34X mm	HR584 20mm		HR878 25mm		HR1078 25mm		HR1583 40mm			081A mm
Inlet kPa	Outlet kPa	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction	Motive Flow	Liquid Suction
	0	lpm	0.38	lpm	0.86	lpm	1.1	lpm	2.6	lpm	1.6	lpm	1pm 4.5	lpm	5.8	lpm	14.4	lpm	39.7
	35 70 105		0.38 0.38 0.38		0.86 0.85 0.85		1.1 1.1 1.1		2.6 2.4 2.4		1.6 1.6 1.6		4.5 4.5 4.5		5.8 5.8 5.8		14.4 14.4 14.3		39.7 39.7 39.7
422	141	2.0	0.36 0.24	9.3	0.84 0.78	15.6	1.1	15.6	2.3	27.4	1.6 1.6	47.9	4.5 4.4	71.8	5.8 5.8	141	14.3	425	39.7 37.8
	246 281		0.15 0.08		0.73 0.52		0.96 0.75				1.5 1.2		3.9 2.6		5.7 4.8		11.5 9.3		32.0 24.0
	316 0	*(3.20)	0.38	*(3.33)	0.15 0.76	*(3.57)	1.1	*(2.43)	2.6	*(3.76)	0.90	*(3.60)	1.0 4.6	*(3.59)	2.8 5.8	*(3.47)	5.1 14.4	*(3.52)	13.6 39.7
	35 70		0.38		0.76 0.77		1.1		2.6		1.6 1.6		4.6 4.6		5.8 5.8		14.4 14.4		39.7 39.7
492	105	2.2	0.38	10.0	0.76 0.77 0.77	16.9	1.0 1.0 1.0	16.9	2.3 2.2 1.9	29.6	1.6 1.6 1.6	51.7	4.6 4.6 4.6	77.5	5.8 5.8 5.8	152	14.4 14.4 14.2	459	39.7 39.7 39.7
	211 281 316		0.33 0.18 0.12		0.77 0.75 0.69		1.0		1.0		1.6 1.4		4.0		5.8 5.1		12.5 10.0		33.3 27.7
	352 387	*(3.80)	0.05	*(3.68)	0.47	*(4.11)	0.71	*(2.86)		*(4.43)	1.0	*(4.10)	1.9	*(4.14)	3.4	*(3.99)	7.8	*(4.11)	20.5
	0 35		0.38		0.73 0.73		1.0 1.0		2.6 2.6		1.6 1.6		4.6 4.6		5.9 5.9		14.6 14.6		39.7 39.7
	70 105		0.38		0.73 0.73		1.0		2.6 2.5		1.6 1.6		4.6 4.6		5.9 5.9		14.6 14.6		39.7 39.7
562	211	2.3	0.38	10.7	0.73	18.0	1.0 1.0 0.99	18.0	2.5	31.6	1.6 1.6 1.6	55.3	4.6 4.6	82.9	5.9 5.9 5.9	162	14.6 14.6	491	39.7 39.7 38.1
	281 352 422		0.28 0.15		0.73 0.71 0.43		0.99 0.94 0.39		1.7 0.43		1.5		4.6 3.5 1.6		5.7		13.9 11.1 5.8		31.9 17.0
	457	*(4.26)	0.20	*(4.35)		*(4.64)		*(3.65)	2.6	*(5.10)	0.49	*(4.75)	0.50	*(4.82)	2.0	*(4.92)	0.75	*(4.68)	3.8
	0 35 70 141		0.38 0.38 0.38 0.38		0.70 0.70 0.70 0.70		0.86 0.86 0.86 0.86		2.6 2.6 2.5 2.5		1.7 1.7 1.7 1.7		4.6 4.6 4.6 4.6		5.9 5.9 5.9 5.9		14.4 14.4 14.4		39.7 39.7 39.7 39.7
633	211 281 352	2.5	0.38 0.36 0.22	11.4	0.70 0.70 0.70	19.1	0.86 0.86 0.86	19.1	2.4 2.1 1.6	33.6	1.7 1.7 1.7	58.7	4.6 4.6 4.4	87.9	5.9 6.0 5.9	172	14.4 14.4 13.7	521	39.7 39.7 37.9
	422 492		0.10		0.69		0.84 0.26		1.0		1.5 0.83		3.0 1.1		5.3 2.4		11.2		28.9
	527 0	*(4.78)	0.38	*(4.99)	0.68	*(5.20)	0.83	*(3.81)	2.6	*(5.66)	0.33 1.8	*(5.32)	<0.10 4.8	*(5.41)	1.2 5.9	*(5.14)	14.6	*(5.31)	39.7
	35 70		0.38		0.69		0.83		2.6		1.8		4.8		5.9 5.9		14.6 14.6		39.7 39.7
703	141 211 281	2.6	0.38 0.38 0.38	12.0	0.69 0.69 0.68	20.2	0.83 0.83 0.83	20.2	2.5 2.5 2.2	35.4	1.8 1.8 1.8	61.8	4.8 4.8 4.8	92.7	5.9 5.9 5.9	182	14.6 14.6 14.6	549	39.7 39.7 39.7
	352 422		0.32 0.19		0.69 0.69		0.83 0.83		1.7		1.8 1.7		4.7 4.2		5.9 5.9		14.4 13.0		39.2 37.4
	492 562	*(5.34)	0.07	*(5.52)	0.66	*(5.83)	0.81	*(4.19)		*(6.33)	1.4	*(5.94)	2.8 0.82	*(6.05)	5.1 1.9	*(5.72)	9.2 1.6	*(5.84)	26.0 7.6
	0 35 70 141		0.38 0.38 0.38		0.68 0.68 0.68		0.77 0.77 0.77 0.77		2.8 2.7 2.7 2.6		2.0 2.0 2.0 2.0		4.7 4.7 4.7 4.7		5.9 5.9 5.9 5.9				39.7 39.7 39.7 39.7
	211 281		0.38 0.68 0.77 2.5 0.38 0.68 0.77 2.3 2.9 0.35 13.1 0.68 22.1 0.77 22.1 2.6 0.33 0.68 0.77 1.5	0.68 0.68		0.77 0.77		2.5 2.3		2.0 2.0		4.7 4.7		5.9 5.9				39.7 39.7	
844	352 422 492	2.9		2.0 1.5 1.2	38.7	2.0 1.9 1.9	67.7	4.7 4.7 4.4	101	5.9 6.0 5.9		60	601	39.7 38.6 37.5					
	562 633	*/0.54	0.15 0.06	*/6.04	0.68 0.54	*/7.04	0.76 0.73	*/E 00)		*/7.50	1.8 1.0	*/7.4.0	3.8 2.1	*/7.47	5.7 3.8			*/7.00	33.0 19.5
	703	*(6.54)		*(6.81)		*(7.01)		*(5.00)		*(7.52)		*(7.14)	0.54	*(7.17)	1.4			*(7.09)	

*Numbers in parenthesis indicate the injector outlet pressure when suction stops (Zero Suction Point).

FI_MAZZEI_V1.05-20

www.hrproducts.com.au





