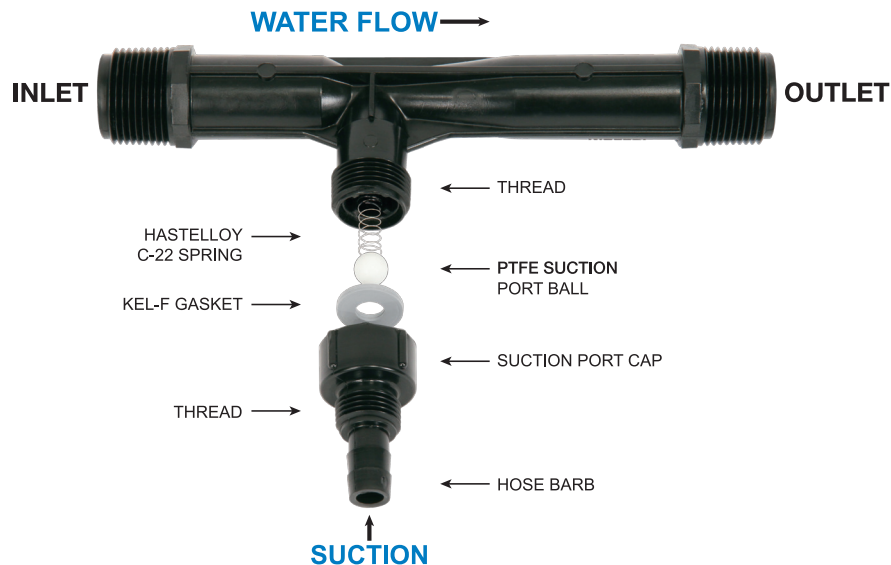




Guide to Injector Performance Tables

Mazzei injectors are extremely efficient, compact differential pressure injectors with internal mixing vanes. When sufficient pressure difference exists between the inlet and outlet ports of the patented injector, a vacuum is created inside the injector body, which initiates suction through the suction port.

Mazzei injectors are available in polypropylene, polyvinylidene fluoride (PVDF), and ethylene chlorotrifluoroethylene (ECTFE) – all are high quality thermoplastics with superior strength, high temperature capability and are resistant to most chemicals. It is important to choose the correct material to be compatible with your chemical additives. When specified and applied correctly, Mazzei injectors will provide years of trouble-free operation.



To choose the Mazzei injector that fits your needs, reference the Mazzei Injector Performance Tables located on the Mazzei website, www.mazzei.net, and in the Mazzei Agriculture Product Catalog, or use our online calculator, the Injector Selector Tool™, at: <http://injectorselector.mazzei.net>, to aid in injector selection.

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?

Example

A grower plans to inject **120 GPH** (2 GPM) of a liquid fertilizer through a by-pass into his irrigation system. He has **40 PSI** available and needs to maintain **25 PSI** downstream. He also wants to maintain a water flow rate of around **30 GPM** through the by-pass. Going by the grower's requirements, refer to the Injector Performance Table below:

Water Suction Capacity																	
Operating Pressure PSIG		Model 584 ½" & ¾" Threads		Model 684 ¾" Threads		Model 878-03 1" Threads		Model 885X-03 1" Threads		Model 1078-03 1" Threads		Model 1583 1½" Threads					
Injector Inlet	Injector Outlet	Motive Flow GPM	Water Suction GPH	Motive Flow GPM	Water Suction GPH	Motive Flow GPM	Water Suction GPH	Motive Flow GPM	Water Suction GPH	Motive Flow GPM	Water Suction GPH	Motive Flow GPM	Water Suction GPH				
20	0	4.2	24.8	7.0	25.1	7.3		7.3		7.3	98.2	21.5	228				
	5		24.8		25.2				95.4		205						
	10		23.7		25.2				70.0		144						
	12		19.2		18.4				51.5		132						
	15		*(18.0)		14.6		*(16.5)		10.4		*(16.5)		30.3	*(17.9)	66.2		
30	0	5.1	25.3	8.6	24.5	9.0		9.0		9.0	94.4	26.3	227				
	5		25.4		24.6				94.5		226						
	10		24.9		24.6				94.5		212						
	15		25.2		24.6				82.1		167						
	20		18.2		14.7				55.4		126						
40	0	5.9	25.6	9.9	25.0	10.3	35.4	10.3	14.3	15.5	93.2	30.3	227				
	5		25.6		25.0		9.1		*(20.5)		141		229				
	10		25.6		25.1		77.5		141		139		227				
	15		25.5		25.0		77.5		128		90.5		221				
	20		25.2		25.1		73.6		90.5		36.9		193				
50	0	6.6	21.3	11.1	24.7	11.6	50.6	11.6	28.2	17.3	72.2	33.9	153				
	30		*(35.5)		15.0		*(35.0)		10.8		*(34.4)		28.2	*(27.0)	42.7	*(33.4)	81.5
	0		25.6		25.0		74.8		140		92.4		227				
	10		25.6		25.0		74.8		141		92.4		226				
	20		25.4		24.9		74.8		128		92.4		224				
25	24.5	25.0	68.3	107	92.4	204											
30	21.6	17.1	56.2	59.0	86.4	172											
35	15.8	9.2	36.6	12.9	64.3	121											
40	*(45.0)	2.8	*(42.0)	6.7	*(42.3)	9.6	*(36.0)	*(43.9)	35.0	*(41.9)	40.5						

Model 1583 will work.
This model has enough suction to provide a maximum of **153 GPH** @ **25 PSI** with a motive (water) flow of **30 GPM**

Other Factors Affecting Liquid Injection

Suction capacity will differ from listed suction capacity under non-standard conditions (i.e. if not at sea level; if the injector placement and liquid additive are not at the same elevation; if the additive is heavier or more viscous than water; if temperatures differ significantly from 70° F; etc). **See Mazzei Technical Bulletin No. 1 – available on the Mazzei website, www.mazzei.net – for correction calculations.**

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?

Example

A grower plans to inject **7.57 l/min** of a liquid fertilizer through a by-pass into his irrigation system. He has **2.81 Kg/cm²** available and needs to maintain **1.76 Kg/cm²** downstream. He also wants to maintain a water flow rate of around **116 l/min** through the by-pass. Going by the grower's requirements, refer to the Injector Performance Table below:

Water Suction Capacity (METRIC)													
Operating Pressure Kg/cm ²		Model 584 20 mm Threads		Model 684 20 mm Threads		Model 878-03 25 mm Threads		Model 885X-03 25 mm Threads		Model 1078-03 25 mm Threads		Model 1583 40 mm Threads	
Injector Inlet	Injector Outlet	Motive Flow l/min	Water Suction l/min	Motive Flow l/min	Water Suction l/min	Motive Flow l/min	Water Suction l/min	Motive Flow l/min	Water Suction l/min	Motive Flow l/min	Water Suction l/min	Motive Flow l/min	Water Suction l/min
1.41	0.00	15.82	1.57	26.53	1.59	27.67						81.2	14.39
	0.35		1.57		1.59								12.96
	0.70		1.50		1.59								9.06
	0.84		1.21		1.16								8.31
	1.05		0.92		0.66								4.18
2.11	0.00	19.38	1.60	32.48	1.55	33.88						99.5	14.29
	0.35		1.60		1.55								14.28
	0.70		1.57		1.55								13.35
	1.05		1.59		1.55								10.55
	1.41		1.15		0.93								7.92
2.81	0.00	22.37	1.62	37.51	1.57	39.10						115	14.34
	0.35		1.61		1.58								14.43
	0.70		1.62		1.59								14.33
	1.05		1.61		1.58								13.91
	1.41		1.59		1.58								12.17
3.52	0.00	25.02	1.35	41.94	1.56	43.72						128	12.85
	0.35		0.95		0.68								5.14
	0.70		1.61		1.58								14.35
	1.05		1.61		1.58								14.28
	1.41		1.60		1.57								14.16
1.76	0.00	25.02	1.54	41.94	1.57	43.72						9.68	12.85
	0.35		1.36		1.08								10.88
	0.70		0.99		0.58								7.61
	1.05		0.76		0.43								4.18
	1.41		0.18		0.42								2.55

Model 1583 will work.
This model has enough suction to provide a maximum of **9.68 l/min** @ **1.76 Kg/cm²** with a motive (water) flow of **115 l/min**

Other Factors Affecting Liquid Injection

Suction capacity will differ from listed suction capacity under non-standard conditions (i.e. if not at sea level; if the injector placement and liquid additive are not at the same elevation; if the additive is heavier or more viscous than water; if temperatures differ significantly from 21° C; etc). See **Mazzei Technical Bulletin No. 1** – available on the Mazzei website, www.mazzei.net – for correction calculations.