

KENCO INJECTORS

Models KINJ, KINJM AND KRINJ

MAXIMUM ALLOWED PIPELINE FLOW RATE IN GALLONS PER MINUTE NOTE 4

CPVC INJECTORS

FOR GASES ONLY

		NOMINAL PROCESS PIPE DIAMETER, STD. WEIGHT																				
		NOM. DIA.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14	16	18	20	24
		Actual I.D.	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	3.548	4.026	5.047	6.065	7.981	10.020	12.000	13.250	15.250	17.250	19.250	23.250
INSERTION LENGTH	1.75	67	118	191	330	450	741	1,058	1,633	2,184	2,812	4,419	6,382	11,051	17,418	24,982	30,458	40,347	51,624	64,289	93,782	
	2.00	53	94	152	263	358	591	843	1,301	1,740	2,241	3,522	5,086	8,807	13,882	19,910	24,274	32,155	41,142	51,235	74,740	
	3.00	28	50	81	140	191	314	448	692	926	1,192	1,873	2,705	4,684	7,383	10,589	12,910	17,102	21,882	27,250	39,752	
	4.00	19	33	53	92	125	206	294	454	607	782	1,229	1,775	3,073	4,844	6,948	8,471	11,221	14,357	17,880	26,082	
	5.00	13	24	38	66	90	149	213	328	439	565	888	1,282	2,220	3,500	5,020	6,120	8,107	10,373	12,918	18,844	
	6.00	10	18	29	51	69	114	163	252	337	434	682	985	1,706	2,689	3,856	4,702	6,228	7,969	9,924	14,477	
	7.00	8	15	24	41	56	92	131	203	271	349	548	792	1,371	2,160	3,099	3,778	5,004	6,403	7,974	11,632	
	8.00	7	12	20	34	46	76	109	168	224	289	454	656	1,135	1,789	2,566	3,129	4,145	5,303	6,604	9,634	
	8.50	6	11	18	31	43	70	100	154	206	266	418	603	1,045	1,647	2,362	2,879	3,814	4,880	6,078	8,866	

HOW TO READ THE TABLE:

1. Locate the pipe diameter that the injector will be installed into along the top row.
2. Locate the desired insertion length along the left side column.
3. Locate the box where the pipe diameter and the insertion length intersect.
4. The number in the box is the maximum flow rate past the injector tip in the pipeline in gallons per minute for which an injector with that insertion length will not suffer structural damage.

EXAMPLE:

If you wish to install an injector with a 4" insertion length into a 2" nominal diameter pipe, the flow rate cannot exceed 206 gallons per min

Reference: Calculations used to formulate this chart are based on "Stress Analysis of Thermowells", J.E. Brock, Naval Postgraduate School, Monterey, 1974
ASME PTC 19.3 - 1974 Temperature Measurement

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MAXIMUM ALLOWED PIPELINE FLOW RATE IN GALLONS PER MINUTE NOTE 4

CPVC INJECTORS FOR GASES ONLY

NOMINAL PROCESS PIPE DIAMETER, .375" WALL THICKNESS																					
NOM. DIA.	14	16	18	20	24	30	32	34	36	38	40	42	44	46	48	50	52	54	56	60	
Actual I.D.	13.250	15.250	17.250	19.250	23.250	29.250	31.250	33.250	35.250	37.250	39.250	41.250	43.250	45.250	47.250	49.250	51.250	53.250	55.250	59.250	
INSERTION LENGTH	6	4,702	6,228	7,969	9,924	14,477	22,913	26,153	29,608	33,277	37,160	41,258	45,570	50,096	54,836	59,790	64,959	70,342	75,939	81,751	94,017
	7	3,778	5,004	6,403	7,974	11,632	18,410	21,014	23,789	26,737	29,857	33,150	36,614	40,251	44,059	48,040	52,193	56,518	61,015	65,685	75,540
	8	3,129	4,145	5,303	6,604	9,634	15,247	17,404	19,703	22,144	24,728	27,455	30,324	33,336	36,490	39,787	43,227	46,809	50,534	54,401	62,563
	8.5	2,879	3,814	4,880	6,078	8,866	14,033	16,017	18,133	20,380	22,758	25,268	27,908	30,680	33,583	36,618	39,783	43,080	46,508	50,067	57,579
	9	2,660	3,524	4,509	5,615	8,191	12,964	14,798	16,753	18,829	21,026	23,344	25,784	28,345	31,027	33,830	36,755	39,801	42,968	46,256	53,196
	10	2,304	3,052	3,904	4,862	7,093	11,226	12,814	14,506	16,304	18,207	20,214	22,327	24,544	26,867	29,294	31,826	34,464	37,206	40,053	46,063
	11	2,029	2,687	3,438	4,282	6,246	9,886	11,284	12,774	14,357	16,033	17,800	19,661	21,613	23,659	25,796	28,026	30,349	32,764	35,271	40,563
	12	1,775	2,351	3,008	3,746	5,465	8,650	9,873	11,177	12,563	14,029	15,575	17,203	18,912	20,701	22,572	24,523	26,555	28,668	30,862	35,493
	13	1,517	2,010	2,571	3,202	4,671	7,393	8,439	9,554	10,738	11,991	13,313	14,704	16,164	17,694	19,293	20,960	22,697	24,503	26,378	30,336
	14	1,311	1,736	2,222	2,767	4,036	6,388	7,291	8,255	9,277	10,360	11,502	12,705	13,966	15,288	16,669	18,110	19,611	21,171	22,792	26,211
	15	1,143	1,514	1,938	2,413	3,520	5,571	6,359	7,199	8,091	9,035	10,032	11,080	12,180	13,333	14,538	15,794	17,103	18,464	19,877	22,860
	16	1,006	1,332	1,705	2,123	3,097	4,901	5,594	6,333	7,118	7,948	8,825	9,747	10,715	11,729	12,789	13,894	15,046	16,243	17,486	20,110
	17	894	1,184	1,515	1,887	2,752	4,356	4,972	5,629	6,327	7,065	7,844	8,664	9,525	10,426	11,368	12,351	13,374	14,438	15,543	17,875
	18	799	1,059	1,355	1,687	2,461	3,896	4,447	5,034	5,658	6,318	7,015	7,748	8,517	9,323	10,165	11,044	11,959	12,911	13,899	15,985
	19	718	951	1,216	1,515	2,210	3,498	3,992	4,520	5,080	5,673	6,298	6,956	7,647	8,371	9,127	9,916	10,738	11,592	12,479	14,352
	20	649	860	1,100	1,370	1,998	3,163	3,610	4,087	4,593	5,129	5,695	6,290	6,914	7,569	8,253	8,966	9,709	10,482	11,284	12,977
	21	589	780	998	1,243	1,813	2,869	3,275	3,708	4,167	4,654	5,167	5,707	6,273	6,867	7,487	8,135	8,809	9,510	10,238	11,774
22	537	712	911	1,134	1,654	2,618	2,988	3,383	3,802	4,246	4,714	5,207	5,724	6,266	6,832	7,422	8,037	8,677	9,341	10,742	
23	490	649	830	1,034	1,509	2,388	2,725	3,085	3,468	3,872	4,299	4,749	5,220	5,714	6,230	6,769	7,330	7,913	8,519	9,797	
24	451	598	765	952	1,389	2,199	2,510	2,842	3,194	3,567	3,960	4,374	4,808	5,263	5,739	6,235	6,751	7,289	7,846	9,024	

HOW TO READ THE TABLE:

1. Locate the pipe diameter that the injector will be installed into along the top row.
2. Locate the desired insertion length along the left side column.
3. Locate the box where the pipe diameter and the insertion length intersect.
4. The number in the box is the maximum flow rate past the injector tip in the pipeline in gallons per minute for which an injector with that insertion length will not suffer structural damage.

EXAMPLE:

If you wish to install an injector with a 16" insertion length into a 24" nominal diameter pipe, the flow rate cannot exceed 3,097 gallons per min

Reference: Calculations used to formulate this chart are based on "Stress Analysis of Thermowells", J.E. Brock, Naval Postgraduate School, Monterey, 1974
ASME PTC 19.3 - 1974 Temperature Measurement