

Vinyl Chloride Monomer (VCM)

PROCESS FLOW DIAGRAM

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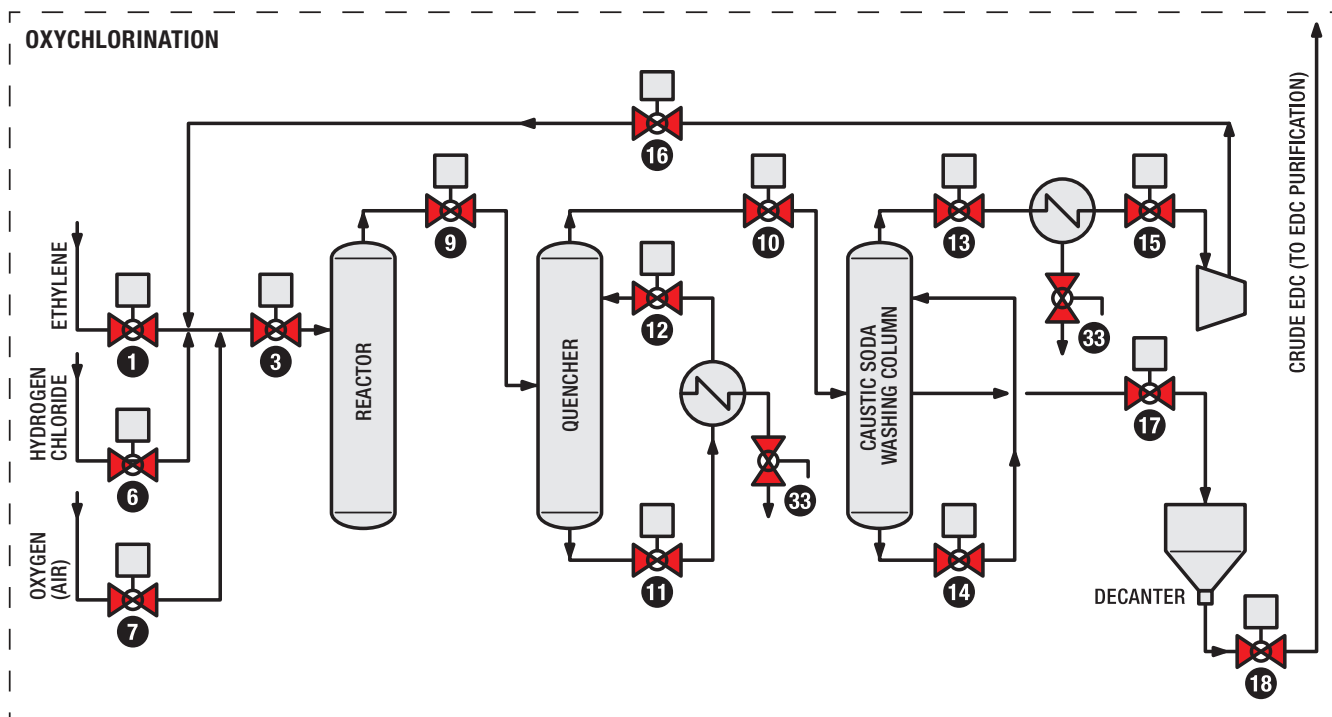
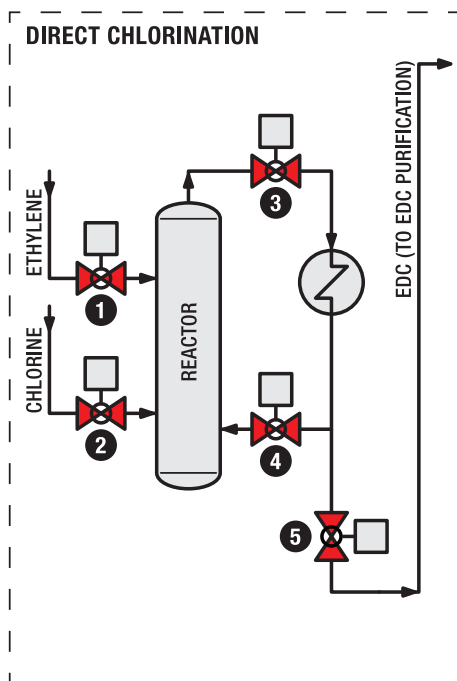
Vinyl Chloride Monomer (VCM)														
Valve Number	Valve Description	Design Temperature Range		Design Pressure Range		Pipe Size		Recommended Valve ¹						
		deg F	deg C	psig	bar g	in	dn	C-Series	T-Series	G-Series	ISOLATOR 2.0	IRSV	Watson Series	FlexStream®
1	Fresh Ethylene	50 – 100	10 – 38	10 – 50	0.7 – 3.4	2 – 4	50 – 100				•			
2	Chlorine	50 – 100	10 – 38	10 – 50	0.7 – 3.4	1 – 3	25 – 75				•			
3	Direct Chlorination Reactor	150 – 200	65 – 93	20 – 80	1.4 – 5.5	4 – 6	100 – 150				•			
4	Direct Chlorination Reactor Recirculation	150 – 200	65 – 93	20 – 80	1.4 – 5.5	2 – 4	50 – 100				•			
5	Ethylene Dichloride (EDC)	300 – 400	150 – 204	300 – 450	20.6 – 31.0	4 – 6	100 – 150				•			
6	Hydrochloric Acid (HCL)	50 – 100	10 – 38	10 – 50	0.7 – 3.4	1 – 3	25 – 75				•			
7	Oxygen (O ₂) (Air)	50 – 100	10 – 38	10 – 50	0.7 – 3.4	1 – 3	25 – 75				•			
8	Oxy-chlorination Reactor Inlet	200 – 300	93 – 150	100 – 200	6.9 – 13.8	4 – 6	100 – 150				•			
9	Oxy-chlorination Reactor Outlet	450 – 500	232 – 260	100 – 200	6.9 – 13.8	4 – 6	100 – 150				•			
10	Oxy-chlorination Quencher	25 – 100	-4 – 38	150 – 200	10.3 – 13.8	4 – 6	100 – 150				•			
11	Oxy-chlorination Quencher Recirculation	25 – 100	-4 – 38	150 – 200	10.3 – 13.8	4 – 6	100 – 150				•			
12	Oxy-chlorination Quencher Cooler	25 – 100	-4 – 38	150 – 200	10.3 – 13.8	4 – 6	100 – 150				•			
13	Caustic Soda Washing Column Ethylene	100 – 200	38 – 93	150 – 200	10.3 – 13.8	2 – 4	50 – 100				•			
14	Caustic Soda Washing Column Recirculation	100 – 200	38 – 93	150 – 200	10.3 – 13.8	4 – 6	100 – 150				•			
15	Caustic Soda Washing Column Ethylene Cooler	50 – 150	10 – 65	150 – 200	10.3 – 13.8	2 – 4	50 – 100				•			
16	Ethylene Recirculation Compressor	50 – 150	10 – 65	150 – 250	10.3 – 17.2	4 – 6	100 – 150				•			
17	Caustic Soda Washing Column	200 – 300	93 – 150	100 – 200	6.9 – 13.8	4 – 6	100 – 150				•			
18	Decanter	0 – 50	-18 – 10	50 – 100	3.4 – 6.9	4 – 6	100 – 150				•			
19	Dehydrator	50 – 100	10 – 38	150 – 250	10.3 – 17.2	4 – 6	100 – 150				•			
20	Low Boiling Point Fractionator	200 – 300	93 – 150	300 – 450	20.6 – 31.0	4 – 8	100 – 200				•			
21	Pure Ethylene Dichloride (EDC)	400 – 500	150 – 260	300 – 450	20.6 – 31.0	4 – 8	100 – 200				•			
22	Recovery Drying Column	400 – 500	150 – 260	300 – 450	20.6 – 31.0	4 – 8	100 – 200				•			
23	High Boiling Point Fractionator	150 – 250	65 – 121	150 – 250	10.3 – 17.2	4 – 8	100 – 200				•			
24	Recycle Ethylene Dichloride (EDC)	150 – 250	65 – 121	150 – 250	10.3 – 17.2	4 – 8	100 – 200				•			
25	Ethylene Dichloride (EDC) Furnace Inlet	500 – 600	260 – 315	300 – 400	20.6 – 27.6	4 – 8	100 – 200	•						
26	Ethylene Dichloride (EDC) Furnace Outlet	800 – 1000	426 – 538	300 – 450	20.6 – 31.0	6 – 10	150 – 250	•						
27	Ethylene Dichloride (EDC) Furnace Cooler	600 – 800	315 – 426	300 – 450	20.6 – 31.0	6 – 10	150 – 250	•			•			
28	Ethylene Dichloride (EDC) Quencher	25 – 100	-4 – 38	150 – 200	10.3 – 13.8	6 – 10	150 – 250				•			
29	Ethylene Dichloride (EDC) Quencher Recirculation	100 – 300	38 – 150	150 – 200	10.3 – 13.8	6 – 10	150 – 250				•			
30	Ethylene Dichloride (EDC) Quencher Cooler	100 – 300	38 – 150	150 – 200	10.3 – 13.8	6 – 10	150 – 250				•			
31	Hydrochloric Acid (HCL) Removal Column	150 – 250	65 – 121	150 – 200	10.3 – 13.8	4 – 6	100 – 150				•			
32	Vinyl Chloride Monomer (VCM) Recovery Column	150 – 200	65 – 93	150 – 200	10.3 – 13.8	4 – 6	100 – 150				•			
	Heat Exchanger	300 – 1500	150 – 815	200 – 900	13.7 – 62.0	1/2 – 2	13 – 50					•		
	General Ball Valves	25 – 900	-4 – 480	25 – 600	1.7 – 41.3	1 – 3	25 – 75			•				

¹ Recommend ISOLATOR 2.0 or T-Series if size, pressure and temperature conditions are met.

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