

Purified Terephthalic Acid (PTA)

PROCESS FLOW DIAGRAM

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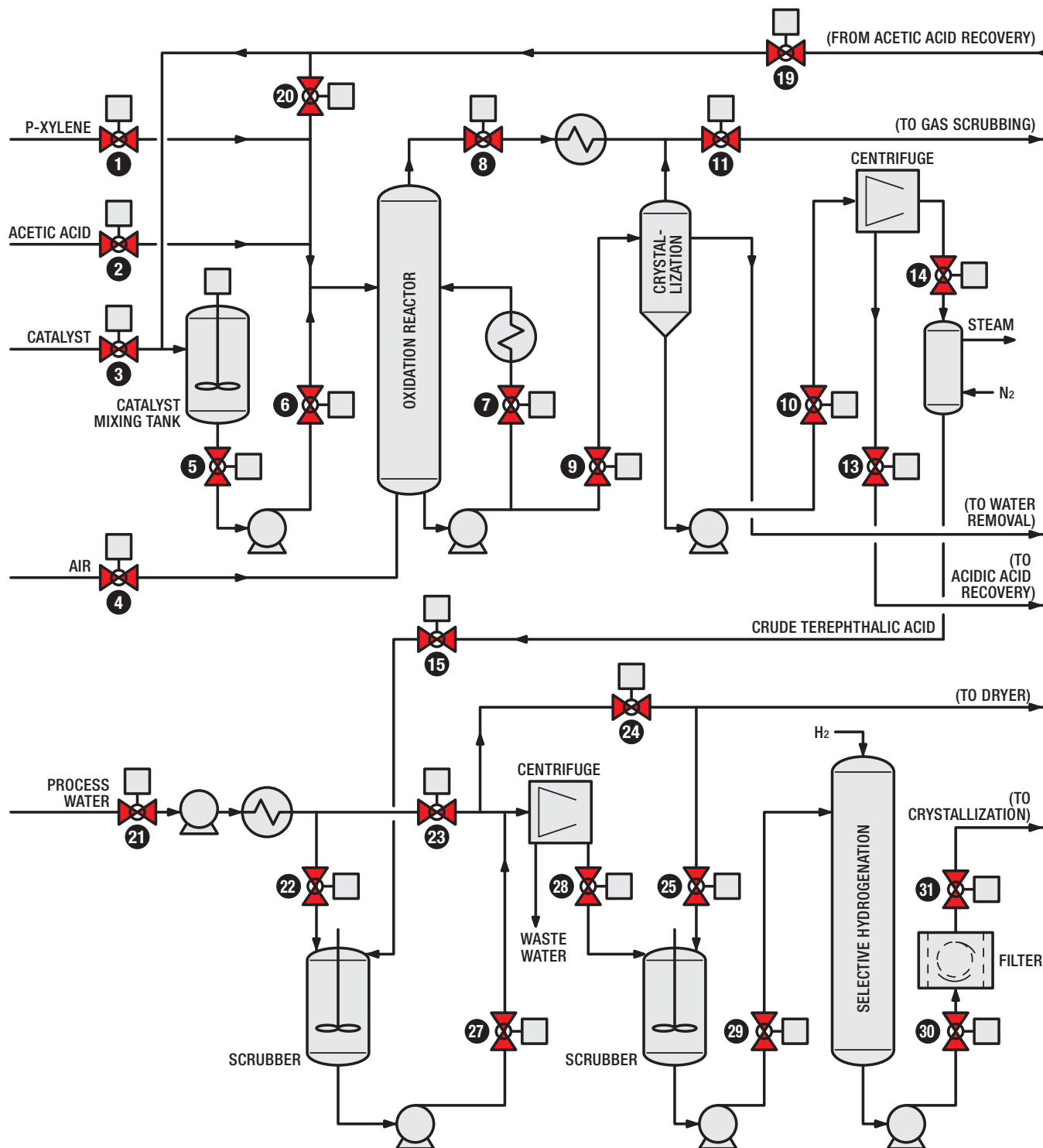
Purified Terephthalic Acid (PTA)														
Valve Number	Valve Description	Design Temperature Range		Design Pressure Range		Pipe Size		Recommended Valve ¹						
		deg F	deg C	psig	bar g	in	dn	C-Series	T-Series	G-Series	ISOLATOR 2.0	IRSV	Watson Series	FlexStream®
1	Para-xylene	50 – 100	10 – 38	200 – 300	13.8 – 20.7	2 – 4	50 – 100				•			
2	Acetic Acid	300 – 400	150 – 204	250 – 350	17.2 – 24.1	1 – 4	25 – 100				•			
3	Catalyst	50 – 100	10 – 38	50 – 100	3.4 – 6.9	1 – 4	25 – 100				•			
4	Air	50 – 100	10 – 38	200 – 300	13.8 – 20.7	1 – 4	25 – 100				•			
5	Catalyst Mixing	50 – 100	10 – 38	50 – 100	3.4 – 6.9	1 – 4	25 – 100				•			
6	Fresh Catalyst Pump	350 – 450	177 – 232	250 – 350	17.2 – 24.1	2 – 6	50 – 150				•			
7	Oxidation Reactor Recirculation	350 – 450	177 – 232	250 – 350	17.2 – 24.1	2 – 6	50 – 150				•			
8	Oxidation Reactor Overhead Gas	350 – 450	177 – 232	250 – 350	17.2 – 24.1	2 – 6	50 – 150				•			
9	Oxidation Reactor	500 – 600	260 – 315	600 – 700	41.3 – 48.2	2 – 6	50 – 150				•			
10	Crystallizer Solids	500 – 600	260 – 315	600 – 700	41.3 – 48.2	4 – 8	100 – 200				•			
11	Crystallizer Overhead Gas	500 – 600	260 – 315	600 – 700	41.3 – 48.2	4 – 6	100 – 150				•			
12	Crystallizer Liquids	500 – 600	260 – 315	600 – 700	41.3 – 48.2	4 – 6	100 – 150				•			
13	Centrifuge I Liquids	250 – 350	121 – 177	50 – 100	3.4 – 6.9	4 – 8	100 – 200				•			
14	Centrifuge I Solids	250 – 350	121 – 177	50 – 100	3.4 – 6.9	4 – 8	100 – 200				•			
15	Crude Terephthalic Acid	100 – 200	38 – 93	50 – 100	3.4 – 6.9	4 – 8	100 – 200				•			
16	Gas Scrubber	150 – 200	65 – 93	50 – 150	3.4 – 6.9	4 – 8	100 – 200				•			
17	Centrifuge Liquids Pump	250 – 350	121 – 177	50 – 100	3.4 – 6.9	4 – 6	100 – 150				•			
18	Acetic Acid Recycle	250 – 350	121 – 177	50 – 100	3.4 – 6.9	4 – 6	100 – 150				•			
19	Acetic Acid Recycle	250 – 350	121 – 177	50 – 100	3.4 – 6.9	4 – 6	100 – 150				•			
20	Acetic Acid Recycle	250 – 350	121 – 177	50 – 100	3.4 – 6.9	4 – 6	100 – 150				•			
21	Process Water	100 – 200	38 – 93	50 – 100	3.4 – 6.9	2 – 6	50 – 150			•	•			
22	Process Water	100 – 200	38 – 93	50 – 100	3.4 – 6.9	2 – 6	50 – 150			•	•			
23	Process Water	100 – 200	38 – 93	50 – 100	3.4 – 6.9	2 – 6	50 – 150			•	•			
24	Process Water	100 – 200	38 – 93	50 – 100	3.4 – 6.9	2 – 6	50 – 150			•	•			
25	Process Water	100 – 200	38 – 93	50 – 100	3.4 – 6.9	2 – 6	50 – 150			•	•			
26	Process Water	100 – 200	38 – 93	50 – 100	3.4 – 6.9	2 – 6	50 – 150			•	•			
27	Crude TPA Scubber	100 – 200	38 – 93	50 – 100	3.4 – 6.9	4 – 8	100 – 200				•			
28	Centrifuge II Solids Isolation	100 – 200	38 – 93	50 – 100	3.4 – 6.9	4 – 8	100 – 200				•			
29	Crude Terephthalic Acid Secondary Scubber	100 – 200	38 – 93	50 – 100	3.4 – 6.9	4 – 8	100 – 200				•			
30	Selective Hydrogenation Reactor	100 – 200	38 – 93	100 – 200	6.9 – 13.8	4 – 8	100 – 200				•			
31	Filter	100 – 200	38 – 93	100 – 200	6.9 – 13.8	4 – 8	100 – 200				•			
32	Finishing Crytalizer	100 – 200	38 – 93	100 – 200	6.9 – 13.8	4 – 8	100 – 200				•			
33	Finishing Cetrifuge	100 – 200	38 – 93	100 – 200	6.9 – 13.8	4 – 8	100 – 200				•			
34	Finishing Cetrifuge Liquids	100 – 200	38 – 93	50 – 100	3.4 – 6.9	4 – 8	100 – 200				•			
35	Air	50 – 100	10 – 38	200 – 300	13.8 – 20.7	1 – 4	25 – 100				•			
	Heat Exchanger	300 – 1000	149 – 537	200 – 600	13.8 – 41.3	1/2 – 2	13 – 50					•		
	General Ball Valves	100 – 900	38 – 482	100 – 600	6.9 – 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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