

High Density Polyethylene (HDPE)

PROCESS FLOW DIAGRAM

Gas Phase LLDPE / HDPE Swing Process

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Gas Phase LLDPE / HDPE Swing Process														
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	iRSVP	Watson Series	FlexStream®
1	Fresh Ethylene Feed	50 – 100	10 – 38	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
2	Dried Ethylene	100 – 150	38 – 65	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
3	Fresh Catalyst	50 – 100	10 – 38	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
4	Catalys Feed Tank	50 – 100	10 – 38	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
5	Catalyst Vent Filter	100 – 150	38 – 65	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
6	Nitrogen	50 – 100	10 – 38	100 – 250	6.9 – 17.2	1/2 – 2	13 – 50				•			
7	Fresh Comonomer	50 – 100	10 – 38	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
8	De-Gassed Comonomer	100 – 150	38 – 65	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
9	Comonomer Guard Bed	100 – 150	38 – 65	100 – 250	6.9 – 17.2	1 – 3	25 – 75				•			
10	Hydrogen	50 – 100	10 – 38	100 – 250	6.9 – 17.2	1/2 – 2	13 – 50				•			
11	Polimersization Reactor	150 – 250	65 – 121	100 – 250	6.9 – 17.2	4 – 8	100 – 200	•						
12	Polimersization Reactor Overhead	150 – 250	65 – 121	100 – 250	6.9 – 17.2	3 – 6	75 – 150	•			•			
13	Recycle Blower	150 – 250	65 – 121	100 – 250	6.9 – 17.2	3 – 6	75 – 150				•			
14	Raw Polymer Degassing	150 – 250	65 – 121	100 – 250	6.9 – 17.2	4 – 8	100 – 200	•			•			
15	Purge Gas Recovery	150 – 250	65 – 121	100 – 250	6.9 – 17.2	3 – 6	75 – 150				•			
16	Purge Tower	100 – 200	38 – 93	100 – 250	6.9 – 17.2	3 – 6	75 – 150				•			
17	Condenser	50 – 100	10 – 38	100 – 250	6.9 – 17.2	3 – 6	75 – 150				•			
18	Comonomer Seperator	50 – 100	10 – 38	100 – 250	6.9 – 17.2	3 – 6	75 – 150				•			
19	Comonomer Vent Reconvery	50 – 100	10 – 38	100 – 250	6.9 – 17.2	2 – 4	50 – 100				•			
20	Final Polyethylene Powder	100 – 150	38 – 65	100 – 250	6.9 – 17.2	4 – 8	100 – 200				•			
	Heat Exchanger (Steam)	25 – 900	-4 – 482	25 – 600	1.7 – 41	1 – 3	25 – 75					•		
	General Ball Valves (Process Water)	100 – 200	38 – 93	50 – 100	3.4 – 6.9	2 – 6	50 – 150			•				

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

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