

INTRODUCTION TO PROCESS FLOW DIAGRAM

Engineering made easier to understand







About Us

Graphene Innovestments is a pioneering engineering solutions provider specializing in a wide array of services tailored to meet the needs of various industries with a focus on innovation and expertise, we deliver top-notch solutions in engineering drawings and general maintenance across electrical, HVAC, and plumbing sectors.

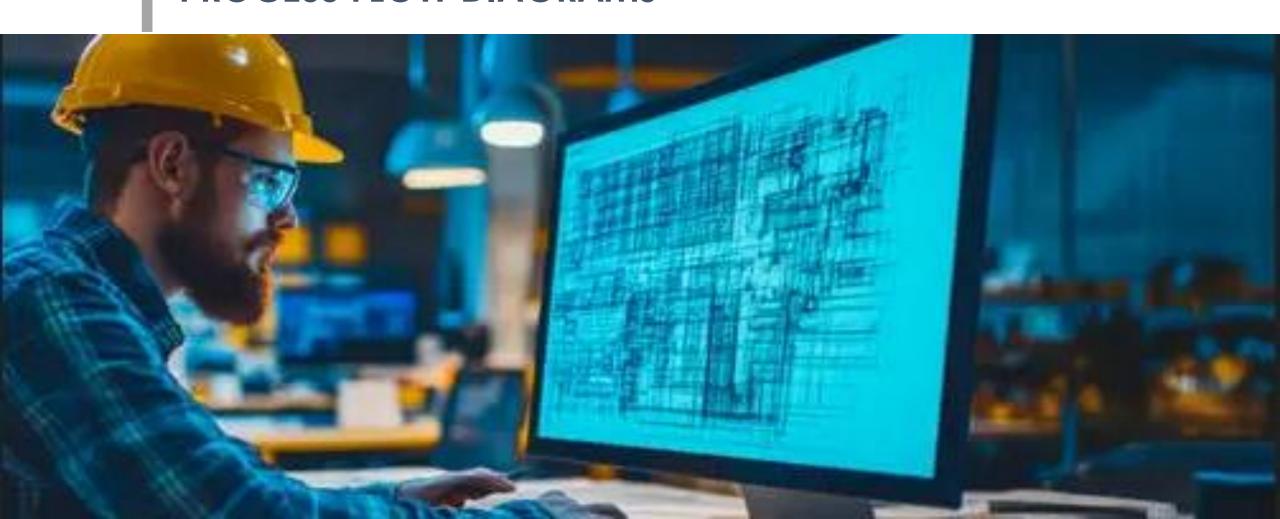
Our commitment to excellence extends to offering specialized services uniquely designed for the pharmaceutical sector, HT Industrial Consumer sector ensuring compliance, efficiency, and safety.

AGENDA





PROCESS FLOW DIAGRAMS



TYPICAL AUDITOR QUERIES



- Where does your sterile boundary start from.
- How have you rationalized the location of BI and Thermocouples.
- How have you ensured the complete product path is covered under sterilization.
- How do you ensure that the entire line exposed to steam condensate and water has been blown dry by air.
- How do you ensure that the sterility is not breached after completion of SIP.
- How can you demonstrate the flow of product during actual processing.

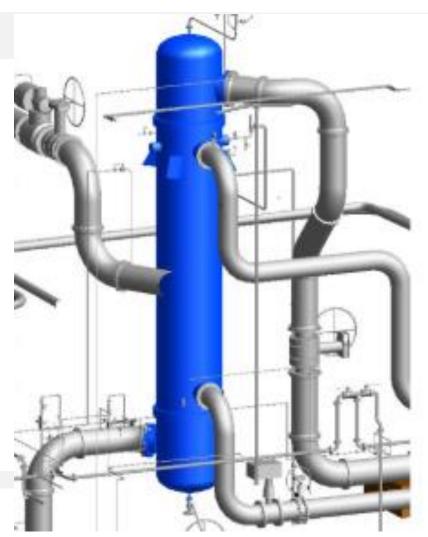


WE CAN HELP YOU OUT



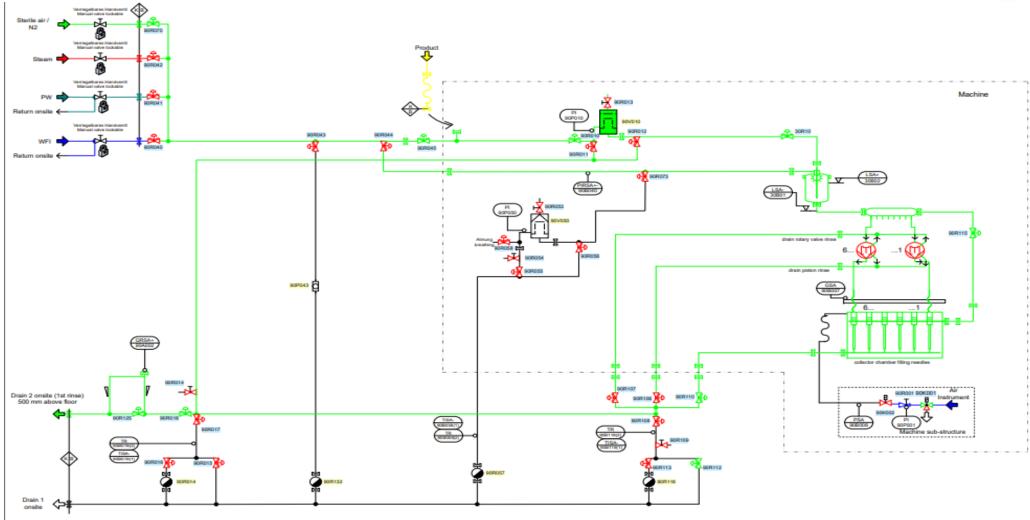
The Process Flow diagram solutions we provide will have the following information but not limited to.

- The exact flow of steam/WFI during sterilization/cleaning, with exact status of each valve and the sequence in which they are opened and then closed. All incremental stages of sterilization/cleaning will be clearly indicated on the drawing.
- The condition of the valves after completion of SIP, which will ensure integrity of the system will be clearly indicated using the drawing.
- The exact flow path of the product, which is already covered by the sterilization can be indicated on the drawing.
- Each and every instrument and mechanical components such as valves with their actual tags as built will be shown on the diagram with their relevant details, parameters and its operational limits. This will help in easier understanding and troubleshooting.



SOME EXAMPLES





SOME EXAMPLES



				A:PIRSA+-		_			_		_				_													-			
F02	CIP 2. Rinsing with Detergent 2 (pumps free passage)						0																								
No	Step	Comment	Duration	Sensors	Signals		Preconditions 30R10	90K002	90R010 90R011	90R012	90R013	90R015	90R016 90R017	90R018	90R040	90R042	90R043	90R045	90R053	90R055	90R056	90R058 90R070	90R073	90R106	90R108	90R109	90R110	90R113	90R115	90K001	Kolbenpumpe_0 Tank
2010	drain WFI		10;sec;variable;				0 0	0	0 (0 0	0	0 0	0	0 0	- 1	0 0	1	0 0	0	0 0	0	0	0 0	0	0 0	0	0 0	0	0 0	12	2 0 1
2020		Conductivity measuring after duration time. Next step, if conductivity is <= xmS. Maximum time.	3;min;variable;	V;QRSA+ 90A002;<;xmS		0	0 0		1 10				0			0 0		0 1	0	0 0	_	0_	0 0	0	0 0	0	0 0	0 0	0_0		2 12 1
2030	blow out product filter 90V010		2;min;variable;				0 0	0	1 10	1	0	0 0	0	0 1	0	0 0	13	0 1	0	0 0	0	0	1 0	0	0 0	0	0 0	0 (0 1	12	2 12 1
2040	rinsing_productlinebypass_and_ri nsing_block_filling_needles	Conductivity measuring after duration time. Next step, if conductivity is <= xmS. Maximum time.	3;min;variable;	V;QRSA+ 90A002;<;x mS		0	0 1	0	1 (0 0	0	0 0	0	0 1	1	0 0	0	0 1	0	0 0	0	0	0 0	0	0 0	0		0	10 0		2 12 12
2050	blow out filling station		2;min;variable;				0 1	0	1 (0 0	0	0 0	0	0 1	0	0 0	0	0 1	0	0 0	0	0	1 0	0	0 0	0	1 0	0	10 1	12	2 12 12
2060	rinsing_sprayballpump_rotary_val ves	Conductivity measuring after duration time. Next step, if conductivity is <= xmS. Maximum time.	3;min;variable;	V;QRSA+ 90A002;<;x mS		0	0 0	0	0 (0 0	0	0 0	0	0 1	1	0 0	0	1 0	0	0 0	0	0	0 0	0	1 0	0	1 0	0 0	10 0	12	2 12 13
2070	blow out filling station		2;min;variable;				0 0	0	0 (0 0	0	0 0	0	0 1	0	0 0	0	1 (0	0 0	0	0	1 0	0	1 0	0	1 0	0	10 1	12	2 12 13
2080	s_	Conductivity measuring after duration time. Next step, if conductivity is <= xmS. Maximum time.	3;min;variable;	V;QRSA+ 90A002;<;x mS		0	0 1	0	1 (0 0	0		0			0 0		0 1	0	0 0	0 0	0	0 0	1	0 0	0	1 0	0 0	10 0		2 12 12
2090	blow out filling station		2;min;variable;				0 1	0	1 (0 0	0	0 0	0	0 1	0	0 0	0	0 1	0	0 0	0 (0	1 0	- 1	0 0	0	1 0	0	10 1		2 12 12
2100	Depressurize		3;sec;variable;			0	0 1	0	1 (0 0	0	0 0	0	0 1	0	0 0	0	0 1	0	0 0	0	0	0 0	1	0 0	0	1 0	0	10 1	12	2 12 12

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