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APPLICATION NOTE

PRODUCTION WELL TESTING
2-Phase Separator versus 3-Phase Separator

Determining the production rate from oil wells is simpler and less costly because of AGAR's advanced technologies. For many years complex 3-phase separators were the standard means because measurement technologies required separate hydrocarbon, water and gas phases. The AGAR patented energy absorption technology for multiphase measurements has revolutionized production rate measurement and optimization.

Well Testing Rate	2-Phase	3-Phase
Retention Time:	Short: Only need to separate fluid from gas.	Long: Necessary to break emulsion
Purging Time:	Short: Negligible dead volumes	Long: Due to dead volumes; varies with emulsion type and well flow rate.
Accuracy	**2-Phase**	**3-Phase**
Purging:	Smaller dead volumes reduce chances of error	Fluid from previous well can greatly affect results if not totally purged.
Emulsions:	Measures from 0 - 100% water in oil.	Treats all water phase as 100% water.
Inversions:	Does handle density inversions.	Cannot handle density inversions.
Instrumentation:	Accurate over full range of 0-100%	Errors due to number of instruments.
Economics	**2-Phase**	**3-Phase**
Number of Instruments:	1 flow meter, 1 set of level controls, and 1 control valve	Requires 2 flow meters, 2 sets of level controls and 2 control valves.
Vessel Size:	Smaller with equal capacity.	Large because of retention time.
Piping:	Only 1 leg.	Complex: Both water leg and oil leg.
Maintenance:	Much simpler system.	More to go wrong.
Wells per Vessel per Day:	Many more.	Few (see Well Testing Rate)
	No emulsion breaking needed.	Emulsion breaking can be very costly.

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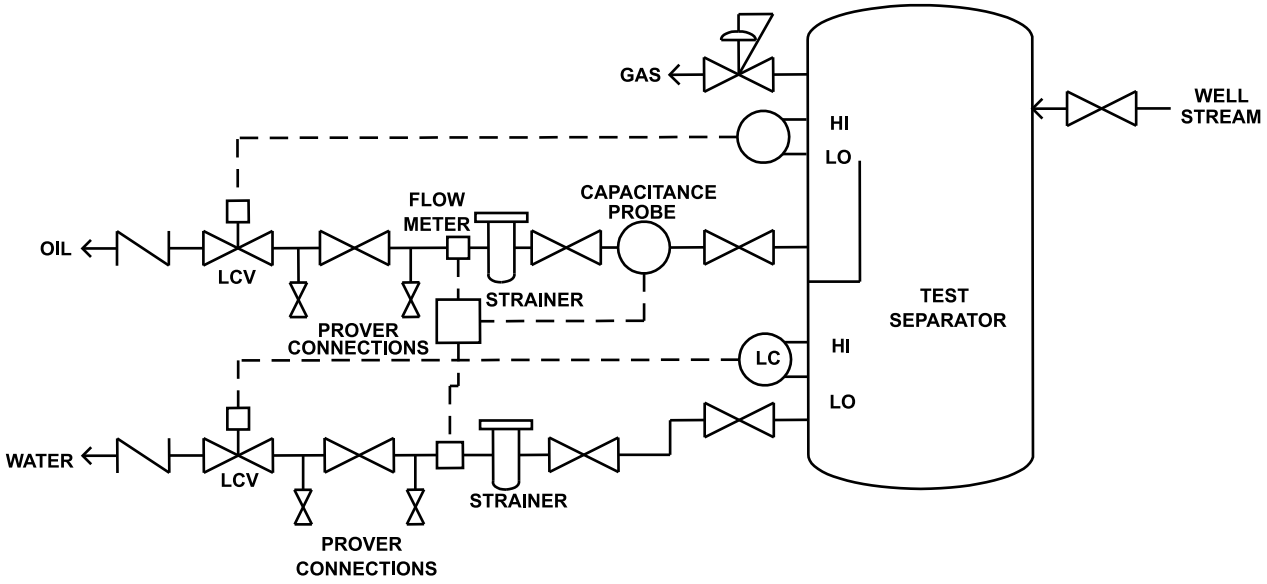
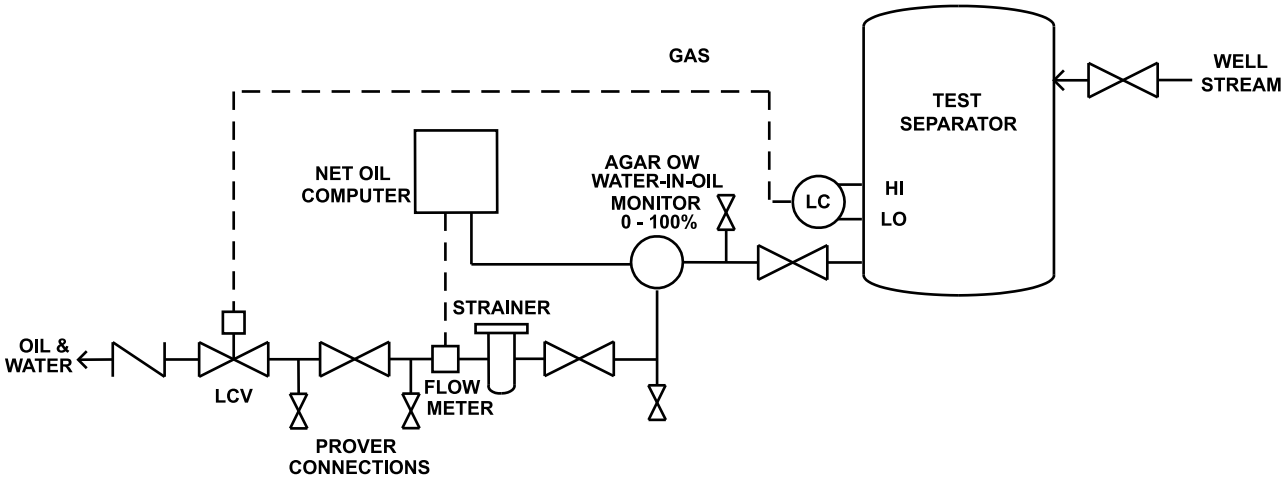


3-Phase Well Tester (Old Method)



2-Phase Well Tester (New, Simpler Agar Technology)