SPD vs. Electric Centrifugal Condensate Pumps

	Comparison Topics	Electric Centrifugal Pumps		SPD Type	
	The following items are important system characteristics to compare when selecting from a choice of condensate drainage, pumping, or recovery product options	1750	3500	SPD I Pumps	SPD II Pump / Traps
DESIGN					
	Sizing Requirements	2 - 3x	2 - 3x	1x	1x
	Less sensitive to TDH variation		√	√	√
	Less filling height / static head required	√		√	√
	Relatively less sensitive to NPSHA			√	√
	Easily used in wet, hazardous & explosive external environments			√	√
	Sump Applications	√	√	√	√
	Hot condensate sump application			√	
	Most can operate without electricity			√	√
	Most can operate during localized electrical outages.			√	√
	Readily self adjusts to variations in back pressure.			√	√
	May require 240 / 480 volt electricity	√	√		
	Many units temperature limited to less than 200 ^{O}F		√		
	Standard models capable of operating 212^{O}F & above			√	√
INSTALLATION					
	Generally single building trade required			√	√
	Can be insulated			√	√
	Flexibility in application/sizing			√	√
	Utilizes steam, air and inert gas – less expensive than electricity			√	√
	No seals, no motors, no impellers or electric components which frequently fail.			√	√
	Long life – less maintenance required.			√	√
	Can easily drain heat exchangers in a non-flash (closed loop) system.				√
	Lower spare part inventory required.			√	√
	Minimal assemblies required for spare parts – lower maintenance costs.			√	√
	Handles flash condensate easier			√	√
	Suitable motive pressure may not be available			√	√
	Discharge piping may require installing back pressure valve	√	√		

	Comparison Topics	Electric Centrifugal Pumps		SPD Type	
		1750 RPM Pumps	3500 RPM Pumps	SPD I Pumps	SPD II Pump / Traps
MAINTENANCE & OPERATION					
	Efficient operation through recycling of motive energy				√
	Generally low profile when properly installed	√		√	√
	Installed low cost option			√	√
	Very accepted in industries	√	√	√	√
	High level of repair knowledge required (high maintenance required)	√	√		
	Low NPSH pumps	√		√	√
	Replacement impellers	√	√		
	Requires sufficient NPSH	√	√		
	Extremely NPSH sensitive		√		
	Extremely TDH sensitive	√			
	Extensive requirements for NEMA VII / XII environments	√	√		
	Special requirements for high temperature environments	√	√		
	Requires sufficient fill height for gravity drainage			√	√
	Additional cooling may be required	√	√		
	Flash tank is always required	√	√	√	
	Requires two building trades – minimum	√	√		
	Don't insulate pump/receiver	√	√		
	Sized for specific narrow range of specific conditions (less flexibility)	√	√		
	Generally higher maintenance required	√	√		

* Check valves are critical system components related to capacity ratings, and the selection of appropriate check valves is essential for proper operation of SPDs. Always use manufacturer's recommended check valves to ensure proper operation.