

Vindum Pump Modes (Dec. 2023)

VPware Mode Abbreviation	Mode Name	EventLog Mode Number (DDE Response Vpware 1.2.37 and later)	DDE Response (VPware 1.2.36 and earlier)	Continuous Pulse-Free Flow?	Constant Rate or Pressure?	Fluid Deliver or Fluid Receive?	Comments
PRD	Paired Rate Deliver	17	PfRateDel	Yes	Rate	Deliver	Paired cylinder operation to deliver fluid continuously at set rate.
PRR	Paired Rate Receive	19	PfRateRec	Yes	Rate	Receive	Paired cylinder operation to receive fluid continuously at set rate. Fluid enters pump via outlet manifold, so flow direction in pump is reversed.
PPD	Paired Pressure Deliver	18	PfPressureDel	Yes	Pressure	Deliver only. Avoid using when downstream pressure is above pump's set pressure.	Pump delivers fluid continuously at set constant pressure. Fluid flow rate varies to maintain set pressure. Use only to deliver fluid. Use bi-directional mode if switching between delivering and receiving fluid without stopping pump.
PPR	Paired Pressure Receive	20	PfPressureRec	Yes	Pressure	Receive only. Avoid downstream pressure that is below pump's set pressure.	Pump receives fluid at set pressure (fluid enters via Fluid Out manifold). Use only for receiving fluid. Use bi-directional mode if switching between delivering and receiving fluid without stopping pump.
PRDG	Paired Rate Deliver-Geared	16	N/A	Continuous but not pulse-free	Rate	Deliver	Pumping and refilling pistons run at the same rate. Fluid is delivered continuously, but pressure changes at piston switch-over may be evident.
PPBD	Paired Pressure Bi-Directional	21	PfPressureBiDir	Yes	Pressure	Deliver or Receive	Used to maintain set pressure at Fluid Out manifold. Pump will deliver fluid to raise downstream pressure to set pressure or will receive fluid to maintain set pressure. In this mode, max flow rate is limited to about one-half of normal delivery rate.
IR	Independent. Rate - Manual	1	IndRate	No	Rate	Deliver or Receive, depending on piston direction and valve open/closed positions	Completely manual, independent, cylinder operation. Commonly used to depressurize cylinders or reposition pistons. When piston reaches end of stroke, pumping stops. Requires user to manually open/close valves and set piston direction.

VPware Mode Abbreviation	Mode Name	EventLog Mode Number (DDE Response Vpware 1.2.37 & later)	DDE Response (VPware 1.2.36 and earlier)	Continuous Pulse-Free Flow?	Constant Rate or Pressure?	Fluid Deliver or Fluid Receive?	Comments
IPD	Ind. Pressure Deliver - Manual	2	IndPressure	No	Pressure	Deliver only. Avoid high external pressure downstream of pump which can drive piston backwards.	Pump cylinders operated independently. Pumping stops when piston reaches end of stroke. Requires user to manually set inlet & outlet valve positions and piston direction. Only used to deliver fluid. Avoid exposing open cylinder to downstream pressure that is in-excess of pumps' set pressure, as this will drive fluid into the pump.
IRDC	Ind. Rate Deliver - Cycled	3	IndRateCycled	No	Rate	Deliver	Independent cylinder operation with fluid delivery at set rate. At end of stroke, piston retracts to refill with fluid (no fluid delivered during piston retract). Valve operation is automatically controlled by pump.
IPDC	Ind. Pressure Deliver - Cycled	4	IndPressureCycled	No	Pressure	Deliver only. Avoid exposing pump to external pressure that is higher than pump's set pressure.	Independent cylinder operation with fluid delivery at set pressure. At end of stroke, piston retracts to refill with fluid (no fluid delivered during piston retract). Valve operation is automatically controlled by pump.
IRRC	Ind. Rate Receive - Cycled	5	IndRateReceiveCycled	No	Rate	Receive	Selected cylinder retracts at set rate to accept fluid via Fluid Outlet port. At end of piston stroke, piston extends to discharge fluid through inlet valve/manifold.
IPRC	Independent Pressure Receive - Cycled	7	N/A	No	Pressure	Receive	Independent cylinder operation with receipt of fluid (via Fluid Deliver valve) at set pressure. At end of stroke, piston extends to empty fluid. Valve operation is automatically controlled by pump.
PDPD	Paired delta-Pressure Deliver	22	PfDeltaPressureDel	Yes	Pressure	Deliver	Requires compatible delta pressure transducer connected to Option Module port and Option Module Configuration #3 enabled. Pump continuously delivers fluid at set delta pressure.
RIPD	Recirculation-Compensation	6	RecirculationCompensation	Yes	Pressure	Bi-directional	Pump maintains constant pressure at fluid outlet during recirculation experiments. Recirculation control software available separately.
RPRD	Recirculation-Flow	23	RecirculationFlow	Yes	Rate	Deliver	Paired cylinder operation to deliver fluid continuously at set rate for recirculation experiments. Recirculation control software available separately.