

Manufacturer:	Magnetrol®	VEGA		Emerson	Endress + Hauser		Siemens	
Frequency (C-Band)	6 GHz	6 GHz		6 GHz	6 GHz		6 GHz	
Model	R96	VEGAPULS 65 – Rod	VEGAPULS 66 – Horn	ROSEMOUNT 5401	FMR 230 – Horn	FMR 231 – Rod	SITRANS PROBE LR	SITRANS LR200
Application	Liquids	Aggressive liquids under easy process conditions	Liquids under difficult process conditions, HTHP	Liquids with vapors, turbulence	Liquids in buffer and process vessels, difficult conditions, HTHP	Aggressive liquids under moderate process conditions	Liquids/Solids	Liquids and slurries
Accuracy	± 8mm (0.315 inch)	± 8mm (0.315 inch)	± 8mm (0.315 inch)	± 10mm (.4 inches)	± 10mm (0.39inches)	± 10mm (0.39inches)	± 10mm (0.4 inches)	± 10mm (0.4 inches)
Dielectric Range								
Horn:	$\epsilon_r > 1.7$		$\epsilon_r > 1.7$	$\epsilon_r > 1.9$	$\epsilon_r > 1.9$	$\epsilon_r > 1.9$		$\epsilon_r > 3$
Dielectric Rod:	$\epsilon_r > 2.0$	$\epsilon_r > 2.0$		$\epsilon_r > 1.9$	$\epsilon_r > 1.9$	$\epsilon_r > 1.9$	$\epsilon_r > 3$	$\epsilon_r > 3$
Stillwell w/horn:	$\epsilon_r > 1.4$			$\epsilon_r > 1.4$	$\epsilon_r > 1.4$	$\epsilon_r > 1.4$	$\epsilon_r > 1.6$	$\epsilon_r < 3$
Input Power	11 – 36 VDC	14 – 36 VDC (GP/IS) 20 – 36 VDC (XP)	14 – 36 VDC (GP/IS) 20 – 36 VDC (XP)	16 – 30 VDC (IS) 20 – 42.4 VDC (XP)	7.5 – 36 VDC (GP/IS) 11 – 30 VDC (XP)	7.5 – 36 VDC (GP/IS) 11 – 30 VDC (XP)	16.7 – 30 VDC	14 – 30 VDC (GP/IS) 18.2 – 30 VDC (XP)
Maximum Loop Resistance (ohms) @24 VDC	591Ω	500Ω	500Ω	586Ω GP/IS 348Ω XP	Not Specified ≈550Ω	Not Specified ≈550Ω	550Ω	560Ω (GP/IS) 355Ω (XP)
Measuring Range	130 feet (40m)	114.8 feet (35 m)	114.8 feet (35 m)	115 feet (35m)	65 feet (20m)	65 feet (20m)	65 feet (20m)	65 feet (20m)
Process Temperature	-32° to +400°F (0° to +200°C)	-40° to +300°F (-40° to +150°C)	-76° to +752°F (-60° to +400°C)	-40° to +300°F (-40° to +150°C)	-75° to +750°F (-60° to +400°C)	-40° to +300°F (-40° to +150°C)	-40° to +175°F (-40° to +80°C)	-40° to +390°F (-40° to +200°C)
Process Pressure	Vacuum to 750 psi (52 bar)	Vacuum to 232 psi (16 bar)	Vacuum to 2320 psi (160 bar)	Vacuum to 232 psi (16 bar)	Vacuum to 2320 psi (160 bar)	Vacuum to 580 psi (40 bar)	Atmos to 43.5 psi (3 bar)	Vacuum to 580 psi (40 bar)
Local User Interface	Graphical LCD 4 push buttons	Graphical LCD 4 push buttons	Graphical LCD 4 push buttons	Graphical LCD No push buttons	Graphical LCD 3 push buttons	Graphical LCD 3 push buttons	LCD No push buttons	LCD No push buttons
Analog Output	NE 43 (NE 107)	3.8 – 20.5 mA	4 – 20 mA	3.8 – 20.5 mA	3.8 – 20.5 mA	3.8 – 20.5 mA	4 – 20 mA	3.8 – 20.5 mA
Digital Output	HART®, AMS, FOUNDATION fieldbus™	HART®, AMS FOUNDATION fieldbus™ PROFIBUS, Modbus®	HART®, AMS FOUNDATION fieldbus™ PROFIBUS, Modbus®	HART®, AMS FOUNDATION fieldbus™ Modbus®	HART® FOUNDATION fieldbus™ PROFIBUS	HART® FOUNDATION fieldbus™ PROFIBUS	HART®	HART® PROFIBUS
SIL Hardware Suitability	SIL 2, FMEDA (92.7%)	SIL 2, FMEDA (81%)	SIL 2, FMEDA (81%)	SIL 1, FMEDA (>80%)	SIL 2, FMEDA (74%)	SIL 2, FMEDA (74%)	None	SIL 1, (70%)
Miscellaneous	Proactive Diagnostics with Automatic Waveform Capture	Plastic, AL, and SS housings	Plastic, AL, and SS housings	Dual Port Technology, Circular Polarization	Wide Variety of Antennas	Wide Variety of Antennas	Process Intelligence Signal Processing	Auto False Echo Rejection