

313VDL/D variable speed pumps with brushless DC motor



The 313VDL/D uses a high quality brushless DC motor that provides precise speed adjustment, and low electrical and audible noise. Brushless DC motors have an extremely long service life because they have no internal wearing components. The 313VDL/D OEM pump is made up of a single channel 313D pumphead, a powerful 24V brushless DC gearmotor with built in controller, mounted on an aluminum faceplate. When fitted with 8.0 mm x 1.6 mm tubing, these pumps provide flow rates of up to 1750 ml/min. Snap-on the 313X extension pumpheads to enable multi-channel pumping, depending on the torque limit of the drive. The built in controller allows control of speed, stop/start, direction, and a frequency tacho output.

Ordering information

	24V DC Brushless
100rpm	040.NP10.3D0
350rpm	040.NU10.3D0

For tube selections, see Tables A and B on inside back cover.

Specification Motor

Motor type	24 Volt Brushless DC with Built in Controller
Motor torque output	100rpm, 7.3kg cm 350rpm, 21.0kg-cm
Power consumption	35VA
Weight	2.2 lbs (1.0 kg)

Motor/Controller Connections

Lead no.	Lead Color	Function	Descriptions
1	brown	FW/RV	Direction control input. High CW, Low CC (shaft side)
2	white	Vin	Input voltage (set-point) for speed loop. Resulting speed approx. 1000 rpm/V Vin < 4V: motor at full speed, speed loop off (open loop)
3	green	FG	Frequency generator output, 36 ppr; Rout = 4kOhm (approx.)
4	black	GND	Motor return, ground (0v)
5	red	Vp	Motor supply voltage +24V (min-10V max 30V)
6	bare	shield	Shield for cable and connection to motor housing

Flow rates (ml/min)

	1.6mm (1/16") wall tubing						
	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm	6.4mm	8.0mm
rpm	1/50"	1/32"	1/16"	1/32"	3/16"	1/16"	5/16"
100	3.00	6.00	26.0	100	220	360	500
350	10.5	21.0	91.0	350	770	1260	1750

For tube selections, see Tables A and B on page 48.

