# Model VSR Stationary Vacuum Sampler (Refrigerated)

#### Low Cost of Ownership

Over their useful life, vacuum samplers are the least expensive suction lift samplers to own. With few moving parts, critical components rated for thousands of operations, and no regularly scheduled replacement of consumable parts (such as peristaltic pump tubing), labor and spare parts costs are minimized. It is possible to save hundreds, if not thousands, of dollars over the useful life of a Model VSR sampler.



#### Versatile Controller

The sampler's microprocessor-based controller is housed in an enclosure rated for environmental protection by the National Electrical Manufacturers Association as NEMA 4X/NEMA 6. The controller offers advanced functionality and features, such as data logging, review of settings and operating status, with a variety of flow and time modes. With its step-by-step menu format, dedicated-button keypad, and large backlit LCD, the controller is simple to set up, even in the dark! Easy to understand prompts and short cut

keys save manpower and time by enabling the operator to quickly change or review programming and settings, avoiding frustrating navigation through long, complicated menu structures.

## Comprehensive, Flexible Programming

The exceptional sampling software is designed to be highly flexible and easy to use. The menu-driven system provides many programming features. (See partial listing in Specifications reverse side)

#### Accurate, Repeatable Sample Volumes



Precise accuracy and repeatability of sample volumes for the SR sampler is within 0.5% of pre-set volume (versus the  $\pm 5\%$ volume typical of a peristaltic The collected sampler). will sample be exact. ensuring the validity of your sampling data.

## Durable Construction

Manning samplers over twenty years old are still in regular service. No other sampler company can claim a longevity record like that! The VSR is no exception. Its Acrylonitrile Butadiene Styrene (ABS) enclosure protects the electromechanical parts and the stainless steel hardware can withstand corrosive environments. These features, along with watertight connectors, ensure that no other sampler will last as long as a Manning VSR sampler.

## Standard Refrigerator

The optional 110 or 220 VAC refrigerator is durable, corrosion resistant, and is offered in a white enamel-coated or stainless steel finish. Capable of maintaining samples at the EPA recommended  $0-4^{\circ}$ C, even in high ambient temperatures, this industrial-grade refrigerator is built to handle the toughest environments. Features, such as a corrosion-resistant frame and exterior,

refrigerant lines wrapped with asphalt cork tape to resist damaging environments, with corrosion resistant finish, and a heavy-duty compressor ensure reliable operation under the harshest conditions.



Manning Environmental, Inc. 101 Bar T Dr. Florence, Texas 76527 USA Office: (800) 863-9337 Fax: (254) 793-9965 E-Mail: sales@manning-enviro.com Web:

www.manningenvironmental.com

VSR Sampler Operation

Manning VSF	R Refrigerated Sampler
Size (HxWxD):	W 23.875 in. (60.65 cm) x H 50.75 in. (128.9 cm) x D 24 in. (60.96 cm) Optional NEMA 3R Sampler Enclosure: W 32 in. (81.3 cm) x H 74 in. (187.9 cm) x D 30 in. (76.2 cm)
Weight: (dry)	Sampler: 17.5 lbs (7.94 kg). Standard Refrigerator (6.1 cu. ft.): 110 lbs (49.9 kg) Multi-bottle assembly: 50.5 lbs (22.91 kg) Single bottles: 15.5 lbs. (7.03 kg) Weights vary with size and material. All weights are without packaging or pallets.
Environmental Protection	NEMA 4X/NEMA 6 ABS housing around electromechanical components with all stainless steel hardware
Temperature Limits	Standard unit: 32–122°F (0–50°C); unit with optional NEMA 3R with heater and fan: - 40–122°F (-40–50°C)
Sample Pump	Diaphragm vacuum compressor pump, 12 VDC
Maximum Lift	28 ft (8.53 m)**
Intake Hose	Size: 3/8-inch ID (5/8 inch OD) hose or 5/8 inch ID (7/8 inch OD) Hose Type: PVC or Teflon in 10 ft (3 m), 25 ft (7.6 m), 50 ft (15.2 m), or 100 ft (30.4 m) lengths
Transport Velocity	With 3/8 inch ID hose: 5.13 ft/sec @ 5 ft of lift (1.56 m/sec @ 1.5 m of lift)
Sample Volume	Large chamber holds 500 ml per cycle; maximum of 2000 ml using multiple chamber fills (max. 4)
Accuracy	$\pm 0.5\%$ of set volume
Repeatability	±0.5% of the average largest and smallest sample volume in a sample set
Membrane Keypad	Hermetically sealed 24-key, multiple function keypad with 2-line by 20-character alphanumeric backlit LCD

#### Refrigeration

Standard units are capable of maintaining the sample bottle compartment at 32-39°F (0-4°C) for ambient temperatures to 120°F (49°C) and are provided with either a white enamel coating or stainless steel exterior. 4.1 cu. ft. units are capable of maintaining the sample bottle compartment at 32–39°F (0–4°C) within an ambient temperature range of 40-110°F (4.4-43.33°C)\* and are provided with a white enamel coating only.

#### Sampler Programming

#### Programming features include but are not limited to:

<ul> <li>Data logging (512-event capacity)</li> <li>Flow proportional pacing (contact closure)</li> <li>Flow pacing with time override capability</li> <li>Flow pacing with delay sampling feature</li> <li>Flow pacing with delay sampling feature</li> <li>Flow pacing with maintained event sampling</li> <li>Totalized flow pacing (analog input)</li> <li>Uniform and non-uniform time intervals</li> <li>Multiple bottles per sample</li> <li>Multiple bottles per sample</li> <li>Multiple bottle compositing</li> <li>Bottle grouping</li> <li>Program delay (time or flow)</li> <li>Sampling based on external device input</li> <li>Hydrologic level event mode (storm water sampling)</li> <li>Real-time clock (time and date)</li> <li>Password protection</li> <li>Manual test cycle feature</li> <li>Activity review log (current and past)</li> <li>Intake fault alert</li> <li>Intake line purge</li> <li>Automatic shut-off</li> <li>Power fail/auto restart</li> </ul>	5 5	-	P/N MS63854
	<ul> <li>capacity)</li> <li>Flow proportional pacing (contact closure)</li> <li>Flow pacing with time override capability</li> <li>Flow pacing with delay sampling feature</li> <li>Flow pacing with maintained event sampling</li> <li>Totalized flow pacing (analog input)</li> <li>Uniform and non-uniform time intervals</li> <li>Multiple bottles per sample</li> <li>Multiple samples per bottle</li> </ul>	<ul> <li>Program delay (time or flow)</li> <li>Sampling based on external device input</li> <li>Hydrologic level event mode (storm water sampling)</li> <li>Real-time clock (time and date)</li> <li>Password protection</li> <li>Manual test cycle feature</li> <li>Activity review log (current and past)</li> <li>Intake fault alert</li> <li>Intake line purge</li> <li>Automatic shut-off</li> </ul>	Conversion H     Multi-bottle to     (3/8-inch) P/N     Multi-bottle to     (5/8-inch) P/N     In the interest of in

Power	
Internal Clock	Indicates real time within 1 minute per month accuracy
Internal Battery Backup	5-year internal lithium battery to maintain program logic, RAM memory, real-time clock
Power Requirement	110 VAC (60 Hz) or, 220 VAC (50 Hz), both with battery backups available.
Refrigerator inside body:	Linear low-density poly-ethylene (LLDPE)
Alarm Contacts (optional)	Three SPST contacts rated 5 A 110/220 VAC
Input/Output (optional)	Contact closure with or without 4–20-mA input and/or RS-232 output in various combinations
Warranty	
One year from d	ate of shipment.

Ordering Information	
Model VSR Sampler Spare F	Parts/Accessories
<ul> <li>Replacement         Pinch/Discharge Tubing: 3/8-inch tubing P/N     </li> <li>MS566925B* 5/8-inch tubing P/N</li> <li>MS566919B* *Please specify required length in feet.</li> <li>Replacement Intake Hose 5/8-inch bulk clear intake hose P/N MS566918** 5/8-inch bulk nylon-reinforced intake hose P/N MS566901** 3/8-inch bulk clear intake hose P/N MS566917** 3/8-inch bulk Clear intake hose P/N MS566917** 3/8-inch bulk Teflon®-lined intake hose P/N MS566931** **Please specify required length in feet.</li> <li>Hose Couplings 5/8-inch straight female hose coupling P/N MS552031 3/8-inch female quick disconnect fitting P/N MS552104 3/8-inch male quick disconnect fitting P/N MS552105</li> <li>Pressure Switch P/N MS638540</li> <li>Conversion Kits Multi-bottle to single bottle (3/8-inch) P/N MS889774 Multi-bottle to single bottle (5/8-inch) P/N MS889775</li> </ul>	<ul> <li>Cables: 3 ft. (1 m) long, 4-pin plug contact/analog input cable P/N MS818016 10 ft. (3 m) long, 4-pin plug contact/analog input cable P/N MS818018 Serial Output (RS-232 6-inch Patch Cable) P/N MS810059     </li> <li>Replacement Bottles: One 2.5-gallon poly-ethylene bottle w/cap P/N MS687547 One 4-gallon poly-ethylene bottle w/cap P/N MS687551 One 5-gallon poly-ethylene bottle w/cap P/N MS687535 One 5-gallon glass bottle w/Teflon<sup>®</sup> lid liner P/N MS889715 Set of 24 1000-ml poly-ethylene bottles w/caps P/N MS889117 Set of 24 500-ml poly-ethylene bottles w/caps P/N MS889041 5-gal container with splashguard &amp; transport lid P/N MS889721     </li> <li>Strainers: 3/8-inch PVC strainer P/N MS889147 3/8-inch PVC strainer P/N MS889148 5/8-inch Stainless Steel strainer P/N MS579584     </li> <li>Manual P/N MAN-VSR     </li> </ul>

improving and updating its equipment, Manning reserves the right to alter specifications to equipment at any time.



Multiple bottle compositing

## **Ordering Information**

VSR3       38-inch ID vacuum pump stationary sampler system (requires 5/8-inch sampling hose)         VSR5       38-inch ID vacuum pump stationary sampler system (requires 5/8-inch sampling hose)         VSR6       4       10 VAC       C       Battery backup 110 VAC (for sampler only not refrigerator)         B       220 VAC       D       Battery backup 220 VAC (for sampler only not refrigerator)         REFRIGERATOR       4       Stainless steel 110 VAC, 60 Hz       5         3       Standard 110 VAC, 60 Hz       5       Stainless steel 220 VAC, 50 Hz       3         3       Contact closure plus analog (4-20 mA) input       C       Contact closure plus analog (4-20 mA) input       C       Contact closure plus analog (4-20 mA) input       C       Contact closure plus analog (4-20 mA) input       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)       C       Contact closure plus analog (4-20 mA) input       D <t< th=""></t<>
POWER REQUIREMENT       A       110 VAC       C       Battery backup 110 VAC (for sampler only not refrigerator)         B       220 VAC       D       Battery backup 20 VAC (for sampler only not refrigerator)         REFRIGERATOR       4       Stainlass steel 120 VAC, 60 Hz       5         3       Standard 110 VAC, 60 Hz       5       Stainlass steel 120 VAC, 50 Hz         3       Standard 200 VAC, 50 Hz       6       4.1 cu. tt 110 VAC, 60 Hz         *       Recommended for single botte applicables, protected from the elements, indoors, or in a shelter only. Hood option not available on this tertigerator. See 4.1 cu. tt. Refrigerator Data Sheet.         INVU/UTPUT DTUTUTUTUTUTUTUTUTUTUTUTUTUTUTUTUTUTU
A       10 VAC       C       Battery backup 110 VAC (for sampler only not refrigerator)         B       220 VAC       D       Battery backup 220 VAC (for sampler only not refrigerator)         REFRIGERATOR       I       Staniness steel 110 VAC, 60 Hz       Staniness steel 220 VAC, 50 Hz         3       Standard 220 VAC, 50 Hz       In the steel 220 VAC, 50 Hz       Standard 220 VAC, 50 Hz         3       Standard 220 VAC, 50 Hz       In the steel 220 VAC, 50 Hz       Standard 220 VAC, 50 Hz         4       Contact closure ingle better applications, protected from the steements, indoors, or in a shelter only. Hood option not available on this refrigerator. See 4.1 ou. ft. Fabrigerator Data Sheet.         INPUT/OUTPUT OPTION       (3' input cable included with all units and patch cable for RS-232 output when applicable         Contact closure plus Sanialog (4-20mA) input       D       Contact closure plus Sanialog (4-20mA) input         B       Contact closure plus Sanialog (4-20mA) input       D       Contact closure and Analog (4-20mA) input         C       Maine       G       input-stylene       To contact closure plus Sanialog (2 or 4 Bottle         C       Maine       G       input-stylene       To single bottle       For single         Standard 20 VAC       Saling bottle (for composite sampling)       D       Multi-bottle for Discres - 50 ft       S
B     220 VAC     D     Battery backup – 220 VAC (for sampler only – not refrigerator)       REFRUGERATOR       1     None     4     Stainless steel – 110 VAC, 60 Hz       2     Standard – 200 VAC, 50 Hz     5     Stainless steel – 220 VAC, 50 Hz       3     Standard – 200 VAC, 50 Hz     5     Stainless steel – 200 VAC, 50 Hz       4     A     I. – 110 VAC, 60 Hz     5       * Recommended for single bottle applications, protected from the elements, indoors, or in a shelter only. Hood option not available on this andigerator. See 4 / 1.0.1. <i>Refrigerator Data Sheat.</i> INPUTIOUTPUT OPTION     (3' input cable included with all units and patch cable for RS-232 output when applicable)       A     Contact dosure plus analog (4–20-mA) input     D       Contact dosure plus analog (4–20-mA) input     D     Contact closure plus Serial output (RS-232)       B     A     Single bottle (for composite sampling)     D     Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)       C     Multi-bottle (for composite sampling)     D     Multi-bottle for Discrete Sampling (2 or 4 Bottle only ethylene is a plan oply-ethylene is analo give-ethylene is a plan oply-ethylene is plan oply-ethylene is a plan oply-ethylene is a plan oply
REFRIGERATOR       4       Stainless steel - 110 VAC, 60 Hz         1       None       4       Stainless steel - 220 VAC, 50 Hz         3       Standard - 220 VAC, 50 Hz       8       A 1 cu. tt 110 VAC, 60 Hz         *       Recommended for single bottle applications, protected form the elements, indoors, or in a shelter only. Hood option not available on this refrigerator. See 4.1 cu. tt. Refrigerator Data Sheet.         INPUT/OUTPUT OPTION [3' input cable included with all units and patch cable for R5:232 output when applicable)       A       Contact closure plus Serial output (R5-232)         A       Contact closure plus analog (4-20-mA) input       D       Contact closure and Analog (4-20mA) input plus R5:232 output when applicable)       C         A       Single bottle (for composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Discrete Sampling (2 or 4 Bottle (for discrete sampling)       D         BOTTLE CONFIGURATION       A       Single bottle (for composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle only 11 2 aa 2.5 galton poly-ethylene [3 5-galton poly-ethylene container with plant [3 5-galton poly-ethylene container with plant [3 5-galton poly-ethylene container with plant [3 5-galton poly-ethylene container with samp on lids       Sampon ids       Sampon ids         SAMPLING HOSE TYPE       A       None       Sampon ids       Sampon ids       Sampon ids         B       Sampon ids       Sagalon
1       None       4       Stainlass steel - 110 VAC, 60 Hz         2       Standard - 220 VAC, 50 Hz       8       4.1 cu. ft 110 VAC, 60 Hz         3       Standard - 220 VAC, 50 Hz       8       4.1 cu. ft 110 VAC, 60 Hz         •       Recommended for single bottle applications, protected from the elements. Indoors, or in a shelter only. Hood option not available on this refingerator. See 4.1 cu. ft. Refrigerator Def RS-232 cutput when applicable)         A       Contact closure input       C       Catact closure plus Serial output (RS-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure plus Serial output (RS-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure plus Serial output (RS-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure plus Serial output (RS-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure plus Serial output (RS-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure plus Serial output (RS-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure plus Serial output (RS-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure plus Serial output (RS-232)         B
3 Standard – 220 VAC, 50 Hz 8 4.1 cu. ft. – 110 VAC, 60 Hz <sup>2</sup> * Recommended for single bottle applications, protected from the elements, indoors, or in a shelter only. Hood option not available on this refligerator. See 4.1 cu. ft. Refligerator Data Sheet.          INFUT/OUTPUT OPTION       (3' input cable included with all units and patch cable for RS-232 output when applicable)         A Contact closure plus analog (4-20-mA) input       C Contact closure plus Senal output (RS-232)         B Contact closure plus analog (4-20-mA) input       C Contact closure plus Senal output (RS-232)         B Contact closure plus analog (4-20-mA) input plus RS-232 output       EOTTLE CONFIGURATION         A Single bottle (for composite sampling)       D Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B CONTLE TYPE       5 20-gallon poly-ethylene       5 100-m1 poly-ethylene         A single bottle (for composite sampling)       D Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B SAMPLING HOSE TYPE       6 1000-m1 poly-ethylene       For multi-for the sec = 20 ft         B SAMPLING HOSE TYPE       A None       5 38 inch ID PVC hose = 10 ft       H 5/8-inch ID PVC hose = 50 ft         B 3% inch ID PVC hose = 100 ft       K Tetlon <sup>4</sup> hose = -50 ft (3 kinch ID only)       Stantlenes Street strainer         B 3% inch ID PVC hose = -101 ft       M Tafon <sup>4</sup> hose = -50 ft (3 kinch ID only)       Stantlenes Street strainer         B None       1 None       2 20V Strainer       3 Stantlen
<ul> <li>Recommended for single bottle applications, protected from the elements, indoors, or in a shelter only. Hood option not available on this refrigerator. See 4.1 cs. ft. Refrigerator Data Sheet.</li> <li>INPUT/OUTPUT OFTOM (3' input cable included with all units and patch cable for RS-232 output when applicable)</li> <li>Contact closure pluts analog (4–20-mA) input</li> <li>Contact closure and Analog (4-20mA) input</li> <li>Contact closure and Analog (4-20mA) Input plus RS-232 output (RS-232)</li> <li>Contact closure and Analog (4-20mA) Input plus RS-232 output (RS-232)</li> <li>Contact closure and Analog (4-20mA) Input plus RS-232 output (SS-232)</li> <li>Contact closure and Analog (2 or 4 Bottle Distribution)</li> <li>EOTLE CONFIGURATION         <ul> <li>A Single bottle (for composite sampling)</li> <li>Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)</li> <li>EOTTLE TYPE                 <ul></ul></li></ul></li></ul>
option not available on this refrigerator. See 4.1 cu. ft. Refrigerator Data Sheet.         INPUT/OUTPUT OFTON (3) input cable included with all units and patch cable for RS-232 output when applicable)         A       Contact closure inputs and go (4-20-mA) input         B       Contact closure plus analog (4-20-mA) input       D         Contact closure plus analog (4-20-mA) input       D       Contact closure and Analog (4-20mA) Input plus RS-232 output         B       Stringle bottle (for composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         C       Single bottle (for clascrete sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         F       1       None       6       1000-mt poly-ethylene         3       5-gallon poly-ethylene       7       500-mt poly-ethylene         4       - sgallon poly-ethylene       500 mt poly-ethylene       For single         5       - S-gallon poly-ethylene       For single       For single         9       - Sgal poly-ethylene       - Tot for hose - 100 ft       Tot for hose - 50 ft         7       - Si inch ID PVC hose - 101 ft       L       Tofon <sup>+</sup> hose - 50 ft (38 inch ID only)         9       - Si inch ID PVC hose - 25 ft       J       Si inch ID only         9       - Si inch ID PVC hose - 25 ft
A       Contact closure input       C       Contact closure plus Serial output (R5-232)         B       Contact closure plus analog (4-20-mA) input       D       Contact closure and Analog (4-20mA) input plus R5-232 output         BOTTLE CONFIGURATION       A       Single bottle (for composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B       Contact closure plus Berland (5 or discrete sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B       Contact closure plus Berland (5 or discrete sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B       Contact closure plus Berland (5 or discrete sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B       2.5-gallon poly-ethylene (5 2.5 gallon poly))       S/8-inch ID PVC hose - 100 ft       H       5/8-inch ID PVC hose - 50 ft       S/8-inch ID PVC hose - 50 ft       S/8-inch ID PVC hose - 25 ft
A       Contact closure input       C       Contact closure plus Serial output (RS-232)         B       Contact closure plus analog (4–20-mA) input       D       Contact closure plus Analog (4-20mA) Input plus RS-232 output         B       STILE CONFIGURATION       D       Multi-bottle for composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B       Statistical Statisti
plus RS-232 output       BOTTLE CONFIGURATION       A     Single bottle (for composite sampling)     D     Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)       C       Source is a problem in the interval of the interv
BOTTLE CONFIGURATION       A       Single bottle (for composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         C       Multi-bottle (for discrete sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         C       Molti-bottle (for discrete sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         C       Molti-bottle (for discrete sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         C       Signalon poly-ethylene       5       500-mt poly-ethylene       500-mt poly-ethylene         3       5-gallon poly-ethylene container with snap on lids       For single       500-mt poly-ethylene       For single         SAMPLING HOSE TYPE       A       None       B       33 inch ID PVC hose - 10 ft       H       5/8-inch ID PVC hose - 50 ft       C       3/8 inch ID only)         E       3/8 inch ID PVC hose - 100 ft       L       Teflon <sup>®</sup> hose - 25 ft (3/8 inch ID only)       E       5/8 inch ID PVC hose - 100 ft       M       Teflon <sup>®</sup> hose - 50 ft (3/8 inch ID only)       E         SAMPLING STRAINER TYPE       None       None       None       E       None       E       None       N       NetMa 3R Sampler Enclosure with heater, K an A       N angher Enclosure with heater, K an A       N angher Enclo
A       Single bottle (for composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B       The composite sampling)       D       Multi-bottle for Discrete Sampling (2 or 4 Bottle Distribution)         B       350-cm 1poly-ethylene       1       000-ml poly-ethylene       1         1       A erg 2.5 gallon poly-ethylene       1       4 erg 2.5 gallon poly-ethylene       For multi-source         2       2.5-gallon glass wTeflon <sup>®</sup> Ild liner       1       2 erg 2.5 gallon poly-ethylene       For single         9       5-gal poly-ethylene container with snap on lids       SAMPLING HOSE TYPE       A       None         8       38 inch ID PVC hose - 10 ft       H       5/8-inch ID PVC hose - 50 ft       C       Teflon <sup>®</sup> hose - 50 ft (38 inch ID only)         9       5 gal poly-ethylene container with snap on lids       Softlench ID PVC hose - 10 ft       L       Teflon <sup>®</sup> hose - 50 ft (38 inch ID only)         9       5 gal inch ID PVC hose - 10 ft       L       Teflon <sup>®</sup> hose - 50 ft (38 inch ID only)       For inch is poly-ethylene inch is poly-ethylene         1       0 arg inch ID PVC hose - 25 ft       N       Teflon <sup>®</sup> hose - 50 ft (38 inch ID only)       For inch is poly-ethylene         9       5/8 inch ID PVC hose - 25 ft       N       Teflon <sup>®</sup> hose - 50 ft (38 inch ID only)
C       Multi-bottle (for discrete sampling)       Distribution)         BOTTLE TYPE       6       1000-ml poly-ethylene         2.5-gallon poly-ethylene       500-ml poly-ethylene       10       4 a 2.5 gallon poly-ethylene         3.5-gallon poly-ethylene       10       4 a 2.5 gallon poly-ethylene       500-ml poly-ethylene         5       2.5-gallon glass WTeflon® lid liner       For single       For single       bottle         9       5-gallon poly-ethylene container with       5/8-inch ID PVC hose - 50 ft       H       5/8-inch ID PVC hose - 50 ft         B       3/8 inch ID PVC hose - 10 ft       H       5/8-inch ID PVC hose - 50 ft       K       Teflon® hose - 25 ft       J       5/8-inch ID PVC hose - 100 ft         D       3/8 inch ID PVC hose - 10 ft       K       Teflon® hose - 50 ft (3/8 inch ID only)         F       5/8 inch ID PVC hose - 10 ft       M       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 10 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 10 ft (3/8 inch ID o
1       None       6       1000-ml poly-ethylene         2       2.5-gallon poly-ethylene       7       500-ml poly-ethylene         4       4-gallon poly-ethylene       1       2 as 2.5 gallon poly-ethylene         5       -5-gallon glass wTetlon® ild liner       For single         9       5-gal poly-ethylene container with snap on ilds       For single         SAMPLING HOSE TYPE       A       None         8       3/8 inch ID PVC hose - 10 ft       H       5/8-inch ID PVC hose - 50 ft         C       3/8 inch ID PVC hose - 25 ft       J       5/8-inch ID PVC hose - 100 ft         D       3/8 inch ID PVC hose - 100 ft       L       Teflon® hose - 101 ft (3/8 inch ID only)         F       5/8 inch ID PVC hose - 100 ft       L       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 100 ft       M       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 20 ft       N       Teflon® hose - 100 ft (3/8 inch I
2       2.5-galion poly-ethylene 3       5-galion poly-ethylene 4 4-galion poly-ethylene 5       7       500-ml poly-ethylene 10       For multi- 10       4 ea 2.5 galion poly-ethylene 11       2 ea 2.5 galion poly-ethylene 10       2 ea 2.5 galion poly-ethylene 11       2 ea 2.5 galion poly-ethylene 11       2 ea 2.5 galion poly-ethylene 10       2 ea 2.5 galion poly-ethylene 11       2 ea 2.5 galion poly-ethylene 10       1       None 10       1       None       1       None       1       None       1       None       1       None       1       None       2       2       2       2       1       None       2       2       2       2       2       2
4       4-gallon poly-ethylene       11       2 a 2.5 gallon poly-ethylene         5       2.5-gallon glass w/Teflon® lid liner       For single         9       5-gal poly-ethylene container with snap on lids       For single         8       3/8 inch ID PVC hose - 10 ft       H       5/8-inch ID PVC hose - 50 ft         0       3/8 inch ID PVC hose - 25 ft       J       5/8-inch ID PVC hose - 100 ft         D       3/8 inch ID PVC hose - 50 ft       K       Teflon® hose - 25 ft (3/8 inch ID only)         E       5/8 inch ID PVC hose - 100 ft       Teflon® hose - 25 ft (3/8 inch ID only)         E       5/8 inch ID PVC hose - 100 ft       Teflon® hose - 25 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 25 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       Satinless Steel strainer       I       Neme       E         1       None       I<
5       2.5-gallon glass w/Teffon® lid liner       For single bottle         snap on lids       SAMPLING HOSE TYPE         A       None         B       3/8 inch ID PVC hose - 10 ft       H       5/8-inch ID PVC hose - 50 ft         C       3/8 inch ID PVC hose - 50 ft       J       5/8-inch ID PVC hose - 100 ft         D       3/8 inch ID PVC hose - 50 ft       K       Teflon® hose - 101 ft         B       3/8 inch ID PVC hose - 100 ft       L       Teflon® hose - 101 ft       G/8 inch ID only)         E       3/8 inch ID PVC hose - 101 ft       M       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 101 ft       M       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       SAMPLING STRAINER TYPE       1       None       None         1       None       2       PVC strainer       3       3         3       Stainless Siteel strainer       1       NEMA 3R Sampler Enclosure with Heater & Fan
<ul> <li>9 5-gal poly-ethylene container with bottle</li> <li>SAMPLING HOSE TYPE         <ul> <li>A None</li> <li>B 3/8 inch ID PVC hose - 10 ft</li> <li>H 5/8-inch ID PVC hose - 50 ft</li> <li>C 3/8 inch ID PVC hose - 25 ft</li> <li>J 5/8-inch ID PVC hose - 100 ft</li> <li>D 3/8 inch ID PVC hose - 50 ft</li> <li>K Teflon<sup>®</sup> hose - 10 ft (3/8 inch ID only)</li> <li>E 3/8 inch ID PVC hose - 100 ft</li> <li>L Teflon<sup>®</sup> hose - 50 ft (3/8 inch ID only)</li> <li>E 5/8 inch ID PVC hose - 100 ft</li> <li>M Teflon<sup>®</sup> hose - 50 ft (3/8 inch ID only)</li> <li>G 5/8 inch ID PVC hose - 25 ft</li> <li>N Teflon<sup>®</sup> hose - 100 ft (3/8 inch ID only)</li> <li>G 5/8 inch ID PVC hose - 25 ft</li> <li>N Teflon<sup>®</sup> hose - 100 ft (3/8 inch ID only)</li> <li>G 5/8 inch ID PVC hose - 25 ft</li> <li>N Teflon<sup>®</sup> hose - 100 ft (3/8 inch ID only)</li> <li>G 5/8 inch ID PVC hose - 25 ft</li> <li>None</li> <li>P PVC strainer</li> <li>Stainless Steel strainer</li> <li>Stainless Steel strainer</li> <li>Stainless Steel strainer</li> <li>C Hood, no heater (Not available with 4.1 cu. ft. Refrigerator)</li> <li>K NEMA 3R Sampler Enclosure with Heater, Light, and Fan</li> <li>N NEMA 3R Sampler Enclosure with Heater, Fan &amp; Light</li> <li>S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan &amp; Light</li> <li>S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan &amp; Light</li> <li>S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater &amp; Fan</li> <li>T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater &amp; Fan</li> <li>T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater &amp; Fan</li> <li>T Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz</li> <l< th=""></l<></ul></li></ul>
SAMPLING HOSE TYPE         A None         B 3/8 inch ID PVC hose 10 ft         B 3/8 inch ID PVC hose 25 ft         J 5/8-inch ID PVC hose 100 ft         D 3/8 inch ID PVC hose 50 ft         K Teflon® hose 10 ft (3/8 inch ID only)         E 3/8 inch ID PVC hose 100 ft         L Teflon® hose 25 ft (3/8 inch ID only)         F 5/8 inch ID PVC hose 10 ft         M Teflon® hose 50 ft (3/8 inch ID only)         G 5/8 inch ID PVC hose 25 ft         N None         2 PVC strainer         3 Stainless Steel strainer         Stainless Steel strainer         C Hood, no heater (Not available with 4.1 cu. ft. Refrigerator)         K NEMA 3R Sampler Enclosure with Fan         L NEMA 3R Sampler Enclosure with Heater, Light, and Fan         N NEMA 3R Sampler Enclosure with Heater, Fan & Light         G 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light         R 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T 220 V 50 H
B       3/8 inch ID PVC hose - 10 ft       H       5/8-inch ID PVC hose - 50 ft         C       3/8 inch ID PVC hose - 25 ft       J       5/8-inch ID PVC hose - 100 ft         D       3/8 inch ID PVC hose - 25 ft       K       Teflon® hose - 10 ft (3/8 inch ID only)         E       3/8 inch ID PVC hose - 10 ft       L       Teflon® hose - 50 ft (3/8 inch ID only)         F       5/8 inch ID PVC hose - 10 ft       M       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose - 25 ft       N       Teflon® hose - 100 ft (3/8 inch ID only)         G       Stainless Steel strainer       E       None       E         C       Hood, no heater (Not available with 4.1 cu, ft. Refrigerato
C       3/8 inch ID PVC hose 25 ft       J       5/8-inch ID PVC hose 100 ft         D       3/8 inch ID PVC hose 50 ft       K       Teflon® hose 10 ft (3/8 inch ID only)         E       3/8 inch ID PVC hose 100 ft       L       Teflon® hose 25 ft (3/8 inch ID only)         F       5/8 inch ID PVC hose 100 ft       M       Teflon® hose 25 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose 25 ft       N       Teflon® hose 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose 25 ft       N       Teflon® hose 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose 25 ft       N       Teflon® hose 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose 25 ft       N       Teflon® hose 100 ft (3/8 inch ID only)         G       5/8 inch ID PVC brose 25 ft       N       Teflon® hose 100 ft (3/8 inch ID only)         G       Sampler Statistical Statis
E       3/8 inch ID PVC hose 100 ft       L       Teflon® hose 25 ft (3/8 inch ID only)         F       5/8 inch ID PVC hose 10 ft       M       Teflon® hose 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose 25 ft       N       Teflon® hose 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose 25 ft       N       Teflon® hose 100 ft (3/8 inch ID only)         SAMPLING STRAINER TYPE       1       None       2         2       PVC strainer       3       Stainless Steel strainer         3       Stainless Steel strainer       A       None         C       Hood, no heater (Not available with 4.1 cu. ft. Refrigerator)       K       NEMA 3R Sampler Enclosure with Heater, Light, and Fan         N       NEMA 3R Sampler Enclosure with Heater & Fan       N       NEMA 3R Sampler Enclosure with Heater, Fan & Light         Q       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan       P         U       Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz       V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz       I       None         2       Three alarm contacts (sample in progress, missed sample,
F       5/8 inch ID PVC hose 10 ft       M       Teflon® hose 50 ft (3/8 inch ID only)         G       5/8 inch ID PVC hose 25 ft       N       Teflon® hose 100 ft (3/8 inch ID only)         SAMPLING STRAINER TYPE       1       None       2       PVC strainer         3       Stainless Steel strainer       3       Stainless Steel strainer         Image: Comparison of the strain of
SAMPLING STRAINER TYPE         1       None         2       PVC strainer         3       Stainless Steel strainer         ENVIRONMENTAL PROTECTION       A         A       None         C       Hood, no heater (Not available with 4.1 cu. ft. Refrigerator)         K       NEMA 3R Sampler Enclosure with Fan         L       NEMA 3R Sampler Enclosure with Heater, Light, and Fan         N       NEMA 3R Sampler Enclosure with Heater & Fan         P       NEMA 3R Sampler Enclosure with Heater, Fan & Light         Q       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light         S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         R       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light         S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan         U       Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         I       None         2       Three alarm contacts (sample in progress, missed sample,
1       None         2       PVC strainer         3       Stainless Steel strainer         3       Stainless Steel strainer         4       None         C       Hood, no heater (Not available with 4.1 cu. ft. Refrigerator)         K       NEMA 3R Sampler Enclosure with Fan         L       NEMA 3R Sampler Enclosure with Heater, Light, and Fan         N       NEMA 3R Sampler Enclosure with Heater & Fan         P       NEMA 3R sampler enclosure with Heater & Fan         Q       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light         S       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         R       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan         U       Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         Q       Three alarm contacts (sample in progress, missed sample,
2       PVC strainer         3       Stainless Steel strainer         4       None         C       Hood, no heater (Not available with 4.1 cu. ft. Refrigerator)         K       NEMA 3R Sampler Enclosure with Fan         L       NEMA 3R Sampler Enclosure with Heater, Light, and Fan         N       NEMA 3R Sampler Enclosure with Heater & Fan         P       NEMA 3R Sampler Enclosure with Heater, Light, and Fan         Q       220 V 50 Hz, NEMA 3R Sampler Enclosure with Fan         R       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light         S       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         R       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         U       Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         ALARMS       1       None         2       Three alarm contacts (sample in progress, missed sample,
ENVIRONMENTAL PROTECTION         A       None         C       Hood, no heater (Not available with 4.1 cu. ft. Refrigerator)         K       NEMA 3R Sampler Enclosure with Fan         L       NEMA 3R Sampler Enclosure with Heater, Light, and Fan         N       NEMA 3R Sampler Enclosure with Heater & Fan         P       NEMA 3R Sampler enclosure with light and fan         Q       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light         S       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan         U       Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         ALARMS       1       None         2       Three alarm contacts (sample in progress, missed sample,
A None C Hood, no heater (Not available with 4.1 cu. ft. Refrigerator) K NEMA 3R Sampler Enclosure with Fan L NEMA 3R Sampler Enclosure with Heater, Light, and Fan N NEMA 3R Sampler Enclosure with Heater & Fan P NEMA 3R Sampler Enclosure with Heater, Fan & Light 3 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan U Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz V Enclosure, Fiberglass Small with fan 110VAC 60 Hz ALARMS 1 None 2 Three alarm contacts (sample in progress, missed sample,
K       NEMA 3R Sampler Enclosure with Fan         L       NEMA 3R Sampler Enclosure with Heater, Light, and Fan         N       NEMA 3R Sampler Enclosure with Heater & Fan         P       NEMA 3R sampler enclosure with light and fan         Q       220 V 50 Hz, NEMA 3R Sampler Enclosure with Fan         R       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light         S       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan         T       220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan         U       Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         V       Enclosure, Fiberglass Small with fan 110VAC 60 Hz         Z       Three alarm contacts (sample in progress, missed sample,
L NEMA 3R Sampler Enclosure with Heater, Light, and Fan N NEMA 3R Sampler Enclosure with Heater & Fan P NEMA 3R sampler enclosure with light and fan Q 220 V 50 Hz, NEMA 3R Sampler Enclosure with Fan R 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan U Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz V Enclosure, Fiberglass Small with fan 110VAC 60 Hz ALARMS 1 None 2 Three alarm contacts (sample in progress, missed sample,
P NEMA 3R sampler enclosure with light and fan Q 220 V 50 Hz, NEMA 3R Sampler Enclosure with Fan R 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan U Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz V Enclosure, Fiberglass Small with fan 110VAC 60 Hz ALARMS 1 None 2 Three alarm contacts (sample in progress, missed sample,
Q 220 V 50 Hz, NEMA 3R Sampler Enclosure with Fan R 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater, Fan & Light S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan U Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz V Enclosure, Fiberglass Small with fan 110VAC 60 Hz ALARMS 1 None 2 Three alarm contacts (sample in progress, missed sample,
S 220 V 50 Hz, NEMA 3R Sampler Enclosure with Heater & Fan 220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan U Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz V Enclosure, Fiberglass Small with fan 110VAC 60 Hz ALARMS 1 None 2 Three alarm contacts (sample in progress, missed sample,
T 220 V 50 Hz, NEMA 3R Sampler Enclosure with Light & Fan U Enclosure, Fiberglass Small with fan and heater 110VAC 60 Hz V Enclosure, Fiberglass Small with fan 110VAC 60 Hz ALARMS 1 None 2 Three alarm contacts (sample in progress, missed sample,
V Enclosure, Fiberglass Small with fan 110VAC 60 Hz  ALARMS  1 None 2 Three alarm contacts (sample in progress, missed sample,
ALARMS 1 None 2 Three alarm contacts (sample in progress, missed sample,
<ol> <li>None</li> <li>Three alarm contacts (sample in progress, missed sample,</li> </ol>
2 Three alarm contacts (sample in progress, missed sample,
sample sequence for a multiple bottle sampler)
Manual included with all samplers.
Configuration Number

## Engineering Specification

- 1. The sampler is suitable for automatic collection and preservation of composite or discrete non-toxic liquid samples.
- 2. The enclosure is a thick walled ABS with NEMA 4X/NEMA 6 ratings.
- Minimum internal diameter (ID) of all wetted parts is 3/8 inch or 5/8 inch, as ordered. Non-toxic samples shall be collected using a clear PVC measuring chamber adjustable 20–500-ml sample volume and ±0.5% repeatability of preset value. All wetted parts are stainless steel, PVC, or silicone.
- 4. The sampler incorporates vacuum compressor technology. The sampling mechanism consists of a heavy-duty vacuum compressor with an aluminum body coated with corrosion-resistant The sample does not pass paint. through a pump. Samplers using requiring technologies regularly scheduled parts replacement will not be acceptable. A 500-ml precision measuring chamber with  $\pm$  0.5% repeatability of preset volume is used. Multiple draws (up to 4) are possible for a total sample volume of 2000 ml. There is no need to compensate for changes in draw height or intake line length.
- The sampler enables field conversion from multiple to single bottle sampling to collect non-toxic liquids by using a parts kit which does not require special tools.
- The sampler collects composite and/or discrete samples. For composite sampling, an overflow protection mechanism shall automatically terminate any further sampling. Discrete sampling can be multiple bottles of the same sample or multiple samples in multiple bottles.
- Bottle-full condition is detected using a stainless steel sensor located in the bottleneck. It is easily removable for cleaning or replacement without using special tools.
- The sampler is capable of collecting 20–2000-ml samples through a 3/8-inch ID sample line at a minimum transport velocity of 2.5 ft/sec at 20 ft of lift using a 25-foot sampling hose, and 5.13 ft/sec at 5 ft of lift using a 15-foot hose.
- An optional weighted sampling strainer of PVC or stainless steel is used.
- A hermetically sealed 24-button keypad and a 2-line by 20-character alphanumeric backlit LCD is linked to a programmable CPU.

11. Refrigeration: The Standard Refrigerator is composed of carbon steel (with iron phosphate pretreatment, covered by white baked acrylic enamel) or stainless steel. The refrigerator condenser is made of carbon steel with a baked enamel finish. Copper refrigerant lines are coated with asphalt cork tape for protection from hydrogen sulfide gas attack. The refrigerator thermostat is capable of maintaining a temperature of 0-4°C. The evaporator plates have a baked-on, powder coat paint finish for protection. The fan The 440 BTU motor is unit bearing. compressor has a high efficiency fan and condenser arrangement permitting reliable operation in high ambient temperatures. Foam insulation forms a CFC-free polyethylene with an interior of food-grade plastic. The capacity is 6.1 cu. ft. The 4.1 cu. ft. Refrigerator is for single bottle use, only when protected from the elements, or for indoor or sheltered applications. The exterior is white enamel coated steel. The cabinet and door insulation is polyurethane with an interior plastic liner for cabinet and door of food-grade quality. The refrigerator thermostat is capable of maintaining the EPA-recommended temperature of 0-4°C provided the ambient temperature is within the specifications listed in the 4.1 cu. ft. Refrigerator data sheet. The capacity is 4.1 cu. ft. Please see the 4.1 cu. ft. Refrigerator Data Sheet for more specifications.

- 12. No unique symbols or codes for programming, or to indicate operating conditions, are used. The software is menu driven; prompting input of requested information by using the keypad. The display indicates each programming step. After entering data, the system automatically advances to the next programming step.
- 13. A password feature is used to restrict access to authorized persons only.
- 14. A sampling program can be delayed by entering the number of hours and minutes for the sampler to count down (up to 99 hrs, 59 min), or the number of contact closures to occur. The delay is independent of the sampling interval.
- The sampler purges the sampler hose immediately prior to and following each sample. Purge duration is selectable from 3–99 seconds.

If a sample is not obtained on the first attempt, the sampler immediately retries to collect the sample. If a sample still cannot be collected, the sampler will omit that sample and continue the sampling sequence.

- 16. Manual sampling, independent of a programmed sequence, is initiated by a keystroke. The sampler logs manual collections and is selectable to allow taking test samples:
  - a. Only when the sampler is not running a program,
  - b. During a program, but the test sample is not counted as a sample, or
  - c. During a program and the test sample is counted as a sample.
- 17. In the Time Mode, the interval between samples is adjustable (1 5999 min. in 1-minute increments). In the Flow Mode, the sampler accepts and totalizes contact closures (1–9999) or a 4–20-mA DC analog signal input for sampling at a user set point.
- 18. The sampler uses a hydrologic event algorithm to enable sample programming based on a combination of parameters, including water level, differential (rising and falling) water levels, and time defaults as established for hydrologic events by the U.S. Geological Survey.
- 19. Operating status is reviewed with minimal effort and includes:
  - a. Program status,
  - b. Time and date program started,
  - c. Minutes or flow signals remaining to the next sample,
  - d. Bottle number,
  - e. Number of samples collected,
  - f. Number of samples remaining,
  - g. Volume collected, and
  - h. Volume remaining.
- All program settings are reviewed followed by a review of the completed program.
- The entire refrigerated sampler is 21. enclosed in an optional weather-resistant, NEMA 3R outdoor enclosure made of fiberglass-reinforced polyester and insulated with 0.75 in. (19.05 mm) thick polyurethane. It is equipped with a full-sized gasketed door with lockable latch, duplex electrical outlet, air vents, and access holes for the sampling hose. It also includes any or all of the following: an optional heater with thermostat suitable for sampler operation to -40°F (-40°C) outside temperature, an optional light and/or optional fan. See the NEMA 3R data sheet for more information.
- 22. The sampler is a Manning Model VSR series.

#### Data Sheet: VSR 10/01/2012 V:11.0

#### Headquarters and Sales:

Manning Environmental, Inc. 101 Bar T Dr. Florence, Texas 76527 Phone: (800) 863-9337 Fax: (254) 793-9965 Email: sales@manning-enviro.com Web: http://www.manningenvironmental.com

In the interest of improving and updating its equipment, Manning reserves the right to alter specifications to equipment at any time.