High Flow

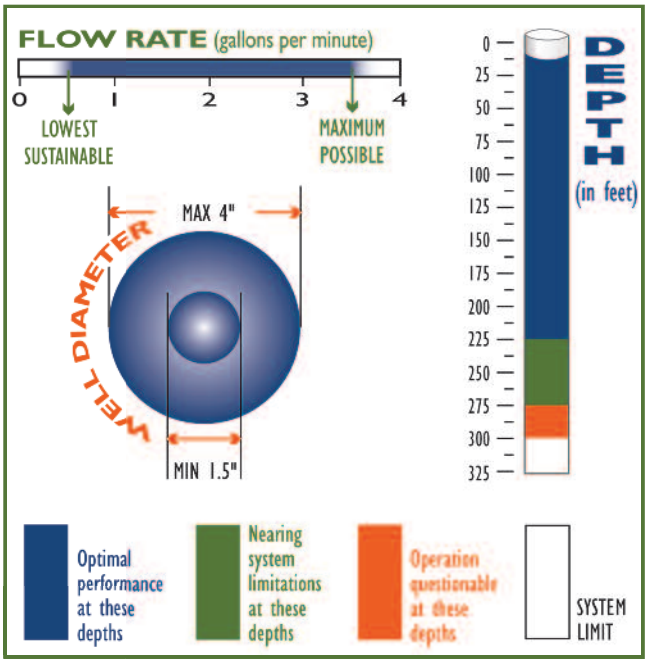
deep well sampling

– D-32

– SS-32

The **Waterra High Flow System** is designed to be used in 2" monitoring wells or larger where a high pumping rate is desired or where very deep wells are encountered. This system is also an excellent well development tool in 2" piezometers.

This system consists of a **High Flow foot valve**, either the 1.25" OD acetal plastic **D-32** or the stainless steel **SS-32** and a length of 1" OD **high density polyethylene (HDPE) tubing**.



HIGH FLOW PERFORMANCE CHART

This system is designed to be used in 2" wells or larger, where a high pumping rate is desired. The High Flow System can provide lifts of 250 to 300 feet.

D-32

SS-32

The High Flow system can provide lifts of up to 250-300 feet in 2 inch monitoring wells and flow rates of up to 4 gallons per minute.

It is recommended to use an automated actuator with the High Flow System. The **Hydrolift-2**, **PowerLift-3**, **PowerPack-PP1** or **PowerPump-2** are all recommended for use with the High Flow System. The PowerPump-2 is the most powerful actuator produced by Waterra and will operate this system to its maximum limits.

As a general guide, in most 2" monitoring wells, the High Flow System D-32 will usually produce a flow rate of about 1 to 3 gallon per minute, given 20 to 30 feet of valve submergence. The High Flow System has a substantial lift capacity in 2" diameter piezometers. Some customers have reported lifts approaching 300 feet.

High Flow

well development with the surge block

high flow

surge blocks

The **Waterra Surge Block** is an excellent well development tool. It simply press fits over the body of the High Flow foot valve (D-32). The inertial pump has a substantial capacity for developing monitoring wells because of the cyclical action of the valve in the well screen area. This characteristic can be utilized to remove silt and sediment that has accumulated in the foot of the monitoring well and can also be used to remove fines from the sand pack and well screen.

The surge block effectively increases the outside diameter of the D-32 foot valve to $1^{7/8}$" in 2" wells and $3^{7/8}$" OD in 4" wells, reducing the annular gap between the valve and the inside of the well screen to approximately 1/16". This results in a significant increase in the surging action of the valve.

The use of the Inertial Pump and Surge Block together is one of the most effective methods for developing monitoring wells because it simultaneously surges and pumps the well. This frees up silt and sediment in the sand pack and screen and breaks down bridging, drawing these particles into the well and then removing this material from the well.

SURGE BLOCKS

Waterra has surge blocks available for both 2" and 4" wells and for both the Standard Flow (SBD-25) and High Flow (SBD-32) systems. Please be sure to specify your preference when ordering.

SBD-32 & SBD-25
FOR 2" WELLS

SBD-25-4 & SBD-32-4
FOR 4" WELLS

RECOMMENDED DEVICES

The **High Flow System** is considerably heavier than the Standard Flow system and consequently is not nearly as suitable for manual operation. The High Flow System can be manually operated in monitoring wells up to a maximum depth of about 60 feet, depending on the operator's strength and endurance.

The greatest performance improvements are realized with the use of the **Waterra Hydrolift-2, PowerLift-3, PowerPack-PP1** or **PowerPump-2**. The use of one of these automated actuators greatly improves the well development capacity of the inertial pump. The automated actuators are also recommended when substantial purge volumes are required.

LEVER PUMP

HYDROLIFT-2

POWERPACK-PP1

POWERLIFT-3

POWERPUMP-2