ADREM™

CRP Series

SD-iL-600-F-H-BA
Flanged Hastelloy C 276 Valve
with Bottle Adapter

SD-iL-400-H-BA
PFA Lined Valve with Bottle Adapter

SD-iL-400-S-VBA
PFA Lined Valve with
Vertical Bottle Adapter

Environmentally Safe, Closed Loop Sampling Systems

Featuring Industry's Most Comprehensive Portfolio of Products Specifically Engineered for Collecting Representative Samples of Hazardous Materials Directly from Process Piping, Vessels and Reactors.

ASSOCIATE CHLORINE INSTITUTE MEMBERS

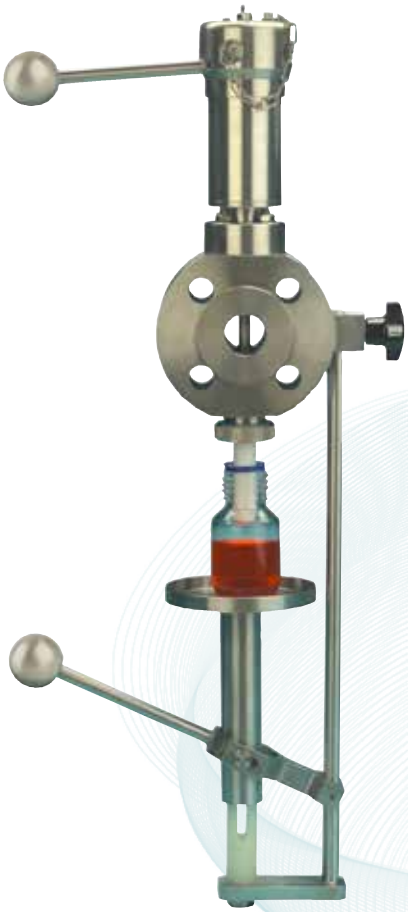
ADREM™ CRP Series

SD-iL-400-H-BA-SC
PFA Lined Valve with
Safety Cabinet

SD-iL-400-S-HNA
PFA Lined Valve with
Horizontal Needle Adapter

SD-iL-300-S-BA
316 SS Valve with
Bottle Adapter

ADREM™ CRP Series

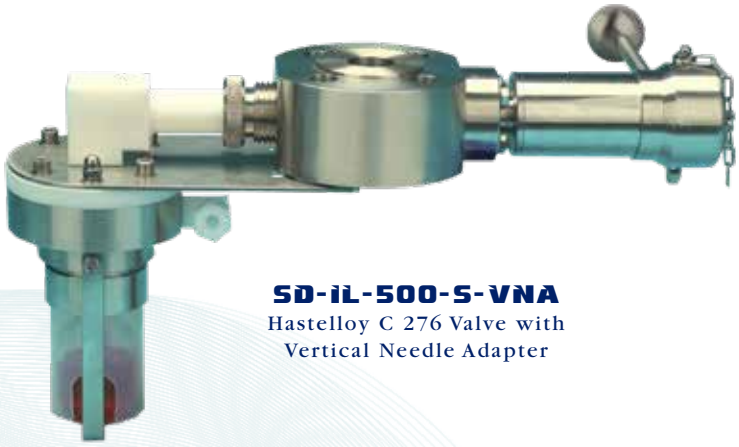


SD-iL-300-S-FT-ABS
316 SS Valve with
Adjustable Bottle Support

SD-iL-300-S-BA-SC
316 SS Valve with
Safety Cabinet

SD-iL-300-TC-H-HNA
316 SS Valve with
Tri-Clover Clamp Connection

ADREM™ CRP Series



SD-iL-500-S-VNA
Hastelloy C 276 Valve with
Vertical Needle Adapter

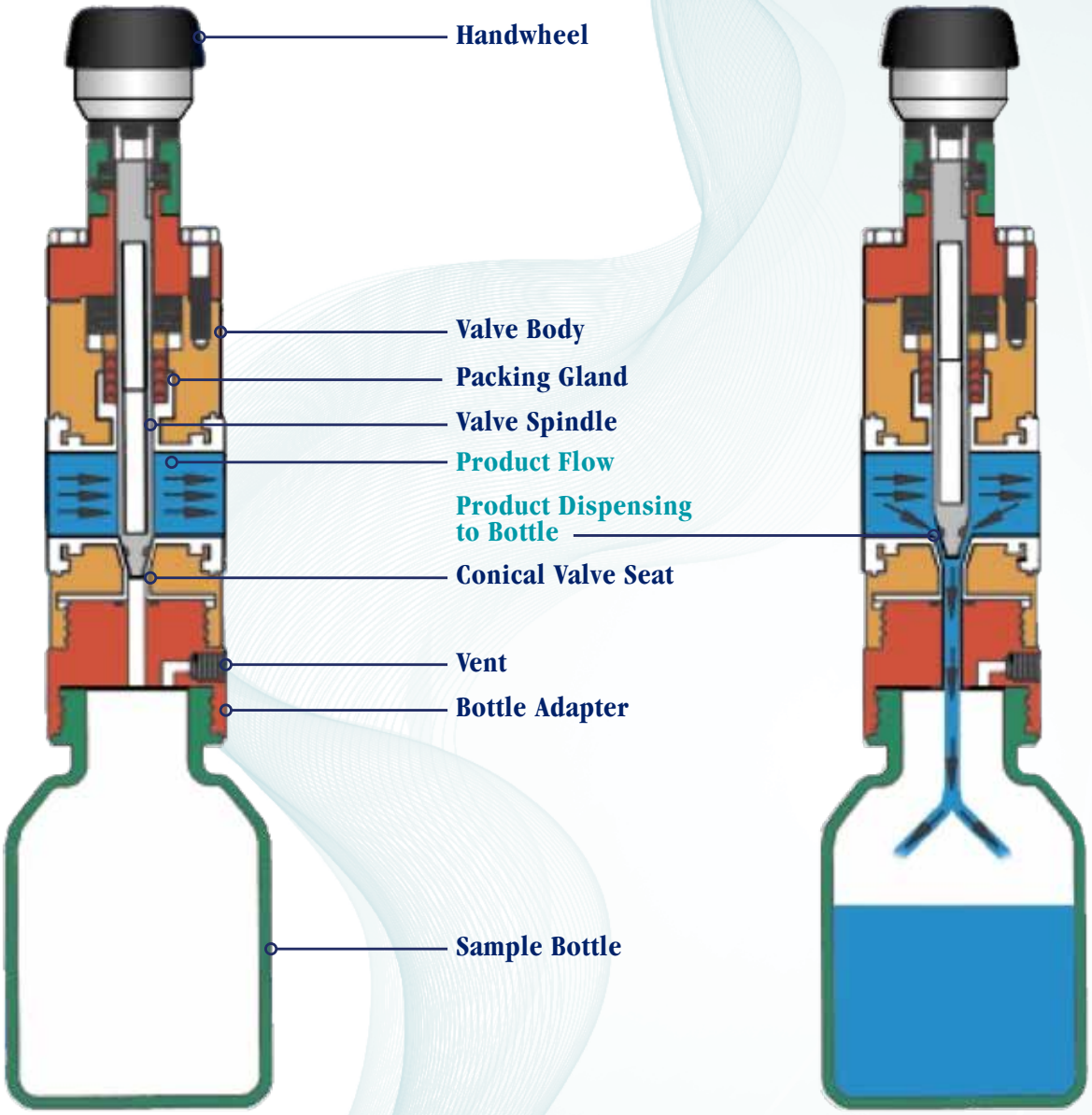
SD-iL-300-Pi
316 SS Valve with
Piston Injector

SD-iL-300-S-VNA
316 SS Valve with
Vertical Needle Adapter

Principle of Operation

VALVE CLOSED

VALVE OPEN

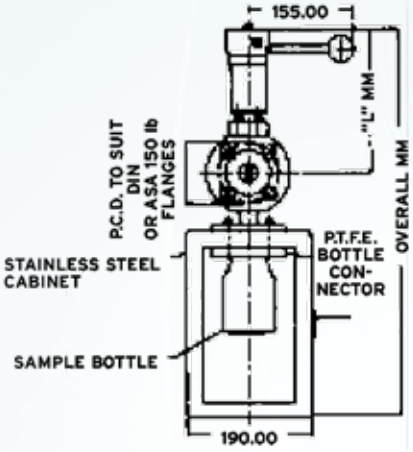


Featuring a dead-space free design, the inline process valve is installed directly into the piping system. The process fluid continually flows through the valve and around the conical seat. The operation of the valve (**manual hand-wheel, spring to close hand-lever or pneumatic actuator**), lifts the conical spindle from the conical seat allowing an uncontaminated, representative sample to flow into the sample bottle. Process pressure and displaced air is safely evacuated from the sample bottle through the vent connection machined in the bottle adapter. Sample bottles with threaded caps or with septum sealed tops can be used to facilitate the sampling process.

ADREM™ CRP Series

SD-iL-300-S-SC SAMPLING SYSTEM

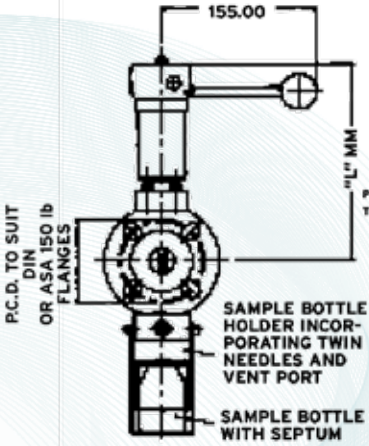
Inline wafer valve, actuated by a pull down/spring return fail safe lever incorporating adjustment facilities for flow control with the sample being taken into a shatterproof bottle contained within a stainless steel safety cabinet.



OPERATING DATA		
VALVE TYPE		
	SD-iL-300 ST/STEEL	SD-iL-400 P.F.A. LINED
PRESSURE TEMPERATURE	16 bar Max -20° to +200°C	10 bar Max -20° to +180°C
6"	271.00	699.00
4"	242.00	642.00
3"	227.00	611.00
2.5"	219.50	597.00
2"	209.00	576.00
1.5"	201.00	560.00
1"	182.00	523.00
SIZE	'L' mm	OVERALL

SD-iL-300-S-NA SAMPLING SYSTEM

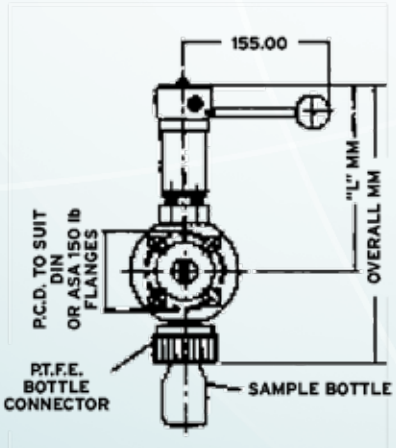
In-line wafer valve, actuated by a pull down/spring return fail safe lever incorporating adjustment facilities for flow control with the sample being taken through a septum sealed bottle.



OPERATING DATA		
VALVE TYPE		
	SD-iL-300 ST/STEEL	SD-iL-400 P.F.A. LINED
PRESSURE TEMPERATURE	16 bar Max -20° to +200°C	10 bar Max -20° to +180°C
6"	271.00	
4"	242.00	
3"	227.00	
2.5"	219.50	
2"	209.00	
1.5"	201.00	
1"	182.00	
SIZE	'L' mm	

SD-iL-500-S-BA SAMPLING SYSTEM

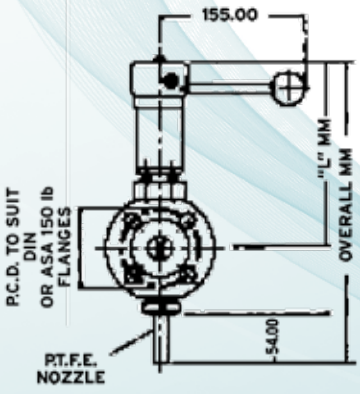
In-line wafer valve, actuated by a pull down/spring return fail safe lever incorporating adjustment facilities for flow control with the sample being taken into a shatterproof bottle held in a vented and threaded bottle adapter.



OPERATING DATA		
VALVE TYPE		
	SD-iL-500 C 276	SD-iL-400 ST/STEEL
PRESSURE TEMPERATURE	16 bar Max -20° to +200°C	10 bar Max -20° to +180°C
6"	271.00	456.00
4"	242.00	399.00
3"	227.00	369.00
2.5"	219.50	354.00
2"	209.00	333.00
1.5"	201.00	317.00
1"	182.00	280.00
SIZE	'L' mm	OVERALL

SD-iL-500-S-FT SAMPLING SYSTEM

In-line wafer valve, actuated by a pull down/spring return fail safe lever incorporating adjustment facilities for flow control with the sample being taken into an open top bottle or container.



OPERATING DATA		
VALVE TYPE		
	SD-iL-500 C 276	SD-iL-300 ST/STEEL
PRESSURE TEMPERATURE	16 bar Max -20° to +200°C	10 bar Max -20° to +180°C
6"	271.00	482.00
4"	242.00	425.00
3"	227.00	395.00
2.5"	219.50	380.00
2"	209.00	359.00
1.5"	201.00	343.00
1"	182.00	306.00
SIZE	'L' mm	OVERALL

Wafer Valves face to face dimensions 2.36 inches
Flanged Valve dimensions in accordance with ASME B16.10

Twin Action Handle Design

Features and Operation

The valve functions with a **twin action handle**. The handle is pulled out against a spring force enabling it to be pushed down over a lip on the top cap. This downward motion opens the valve, working against a spring force. As soon as the handle is released, it will spring back to the closed position safely closing the valve. The handle may be secured with a padlock as part of a safe operating regime or alternatively the valve can be mounted with an actuator to enable remote operation.

- Zero dead space within the valve and a short distance between the sample and dispensing points providing representative sampling.
- A stroke adjuster enabling the valve to be set for a suitable flow of liquid given its line pressure and viscosity.
- Industry validated stem seal system that has been tested to 20,000 cycles at elevated temperatures for over 20 years.
- Both the PFA lined and stainless steel versions are FDA compliant.

SD-iL 400

PFA Lined Sampling Valve

Sampling Valve with Cabinet

Actuated Valve Combined with Pneumatic Bottle Sensor

SD-iL 300

Unlined Sampling Valve

Flanged Unlined Sampling Valve

Specifications

The In-line sampling valve provides a safe and simple to operate product for taking a representative sample from either a horizontal or vertical process piping. With the addition of other equipment for treating, dispensing and containing the sample, it forms the core of a robust and versatile system. It is available PFA lined, 316 SS, Monel and Hastelloy C.

PFA Lined Sampling Valve [SDIL 400]	
Design	Wafer pattern to suit ASME 150, ASME 300, PN 10/16
Size	1" - 6" DN50 - 150
Performance	-29°C to 180°C, Full Vacuum to 10 bar g
Wetted Materials	PFA, PTFE, Chemraz® Perfluoroelastomer
Body Material	Stainless Steel Grade 316 to ASTM A276
Installation	Mounted for sampling from a horizontal or vertical pipeline
Options	
Materials	Lined in Static-dissipating PFA
Valve	Kalrez® Perfluoroelastomer tip seal for abrasive/crystalline media

Unlined Sampling Valve [SDIL 300]	
Design	Wafer pattern to suit ASME 150, ASME 300, PN 10/16
Size	1/2" - 6" DN15 - 150
Performance	-29°C to 200°C, Full Vacuum to 16 bar g. (ASME 300 Full Vacuum to 24 bar g)
Wetted Materials	Stainless Steel Grade 316 to ASTM A276, PTFE, Chemraz® Perfluoroelastomer
Body Material	Stainless Steel Grade 316 to ASTM A276
Installation	Mounted for sampling from a horizontal or vertical pipeline
Options	
Materials	Body in Hastelloy® C276, Monel and other alloys
Design	ASME/DIN Flanges, Tri-clamp or other connections

Sample Dispensing

Once the sample has been collected, it is necessary to place it in a transfer container prior to transporting the sample for analysis. This dispensing choice is a function of the type of liquid or gas and the degree of containment required from a safety and environmental perspective. The options below are presented in ascending levels of safety. Dispensing should always be considered in conjunction with a cabinet.

Flow Through Nozzle

This design is infrequently used because of the ease of spillage and lack of operator protection. However, if the media is non-hazardous it can be a less expensive option or when used in conjunction with a cabinet it can be useful for seeing liquid levels when sampling into an opaque container such as a metal bottle.

Threaded Bottle Adapter

This is the most widely used dispensing option and can be used in conjunction with a safety cabinet. The bottle adapter is manufactured from PTFE with a vent to prevent pressurization when being filled. The most popular bottles have an industry standard GL45 thread. However, there are various other threads that adapters can be manufactured to suit the customer's specific sample bottle.

Options include:

- Twin threads allowing two bottle sizes to be used.
- A PTFE plug and chain to act as a secondary seal and a drip catcher.
- A Ball Check Valve on the bottle vent to allow sampling both under positive pressure and vacuum.
- Pneumatic bottle sensor preventing operation if a bottle is not present.
- A mechanical bottle interlock providing an extra seal between the bottle and sample valve which only opens through the action of fitting the bottle.
- A bayonet coupling hose connector allowing the wash liquid to be piped directly to a drain.
- Spring operated bottle holders to allow easy placement, often combined with a rain cover when used outside without a cabinet.

Septum Sealed Bottles

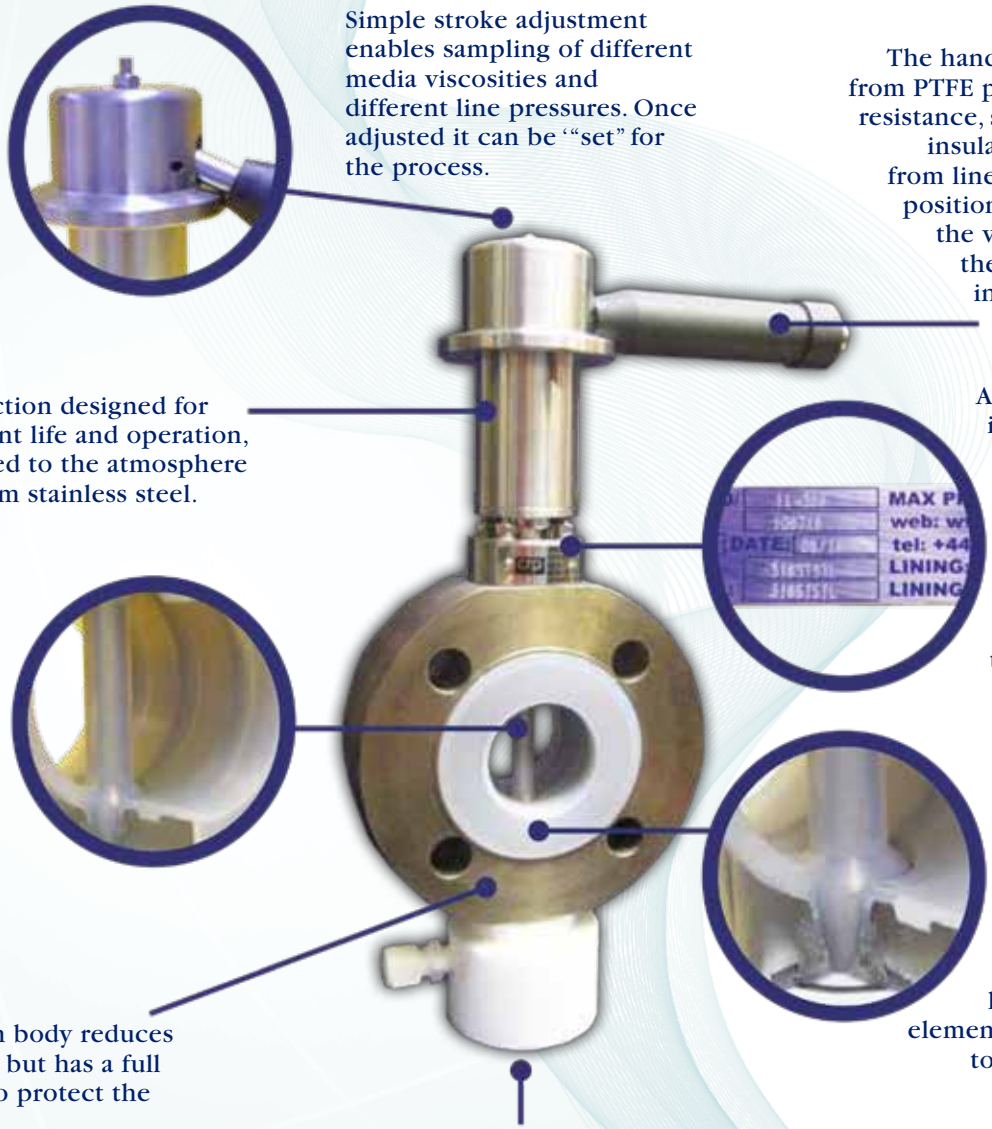
Septum dispensing requires bottles with a PTFE faced silicone rubber septum seal. Two needles (one for bottle venting and one for dispensing the sample) puncture the septum and the sample is dispensed into a bottle held in place with a stirrup. CRP needles are designed with a point rather than the hypodermic style to prevent needle blockage from a core of rubber and damaging the septum cap. The septum sealed bottle is pulled from the needles and the silicone seal serves to wipe the needles clean. The septum seals the bottle and enables safe transportation.

Needles

Standard needles are manufactured in Hastelloy® C276 but also in a range of exotic alloys, with different bore diameters to suit the sample. For small sample bottles, a single needle with a gutter is available.

Design Features

The heart of any sampling system is the valve itself. The valve has been designed to be robust and withstand the rigours of plant use and exposure. Its function is simple and gives a truly representative sample.



Simple stroke adjustment enables sampling of different media viscosities and different line pressures. Once adjusted it can be '"set" for the process.

The handle is manufactured from PTFE providing corrosion resistance, self-lubrication and insulates operator hands from line temperatures. It is positioned well away from the valve body allowing the process line to be insulated if required.

A robust construction designed for the rigours of plant life and operation, with parts exposed to the atmosphere manufactured from stainless steel.

An identification tag identifies type, size, date, serial number and operating parameters to assist in identifying any product spares requirements and the management of plant assets.

The lining is dovetailed to the body providing stability at high temperature and vacuum. The body is enlarged around the valve stem eliminating a reduction in the cross-sectional area of the valve around the stem.

Zero dead space design, with the valve closure being on the pipe line surface.

Conical valve seat has a single closure element with no potential to trap material in or around the valve.

The wafer pattern body reduces weight and space but has a full flange diameter to protect the securing bolts.

A versatile bottom outlet arrangement enables different dispensing options to be selected and a variety of purging and cleaning choices.

Safety Features

Operator and Environmental Security

The handle is a fail safe "spring to close" handle with a powerful spring to ensure closing the valve upon release.

The handle requires two specific actions to operate, preventing accidental opening. A static-dissipating PTFE handle retains its looks after many years of service, does not corrode and prevents temperature transmission from the process to the operator.

Once stem adjustment is set, it can be locked off for safe day to day operation.

A padlock can be installed to the handle to prevent unauthorised operation.

The valve is equipped with a PTFE and Chemraz® stem seal pack that has been tested over 20,000 cycles without leakage.

NOTES:

ADREM™

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