

NEOTECHA TANK SAMPLING SAPRO

Tank sampling system for representative sampling without process interruption



FEATURES

- The sampling system assures a 'true representative sample' every time without process interruption.
- The sampling system is offered with either a syringe or bottle collection method.
- Spring housing is hermetically sealed from the media.
- Valve is self draining (dead spot free).
- Bellow sealed spindle seal.
- The tank sampling is provided with a two step disconnect to ensure that the valve is properly resealed before disconnection.
- Void between valve and syringe can be rinsed and cleaned.
- Dry brake connection between Sapro and syringe.
- The Sapro forms an integrated part with the syringe resulting in a true closed system which allows dangerous, corrosive and toxic liquids or gasses to be taken from a tank without danger to personnel or environment.
- Tightness according DIN EN 12266-1, leak rate A bubble tight.

GENERAL APPLICATIONS

With the ever increasing concerns regarding fugitive emissions, the sampler is an ideal solution when samples have to be taken from:

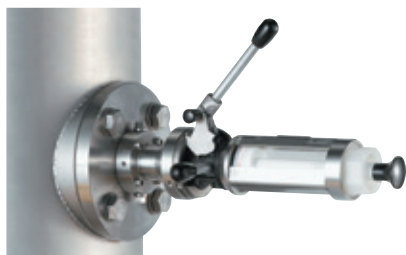
- Storage tanks
- Agitating tanks
- Fermenters
- Bio-Reactors

The Sapro Tank Sampling valve can also be mounted as in-line sampling valve in larger pipe sizes.

TECHNICAL DATA

Size (mm):	DN 50 PN 16
Size (inch):	2" ANSI 150
Pressure (bar):	10 maximum
Temperature (°C):	-20 to +160
Body and spindle:	Stainless steel 1.4435*
Seal:	Perfluorelastomer*
Bellow seal:	Stainless steel (2 layers)

* Other materials available on request

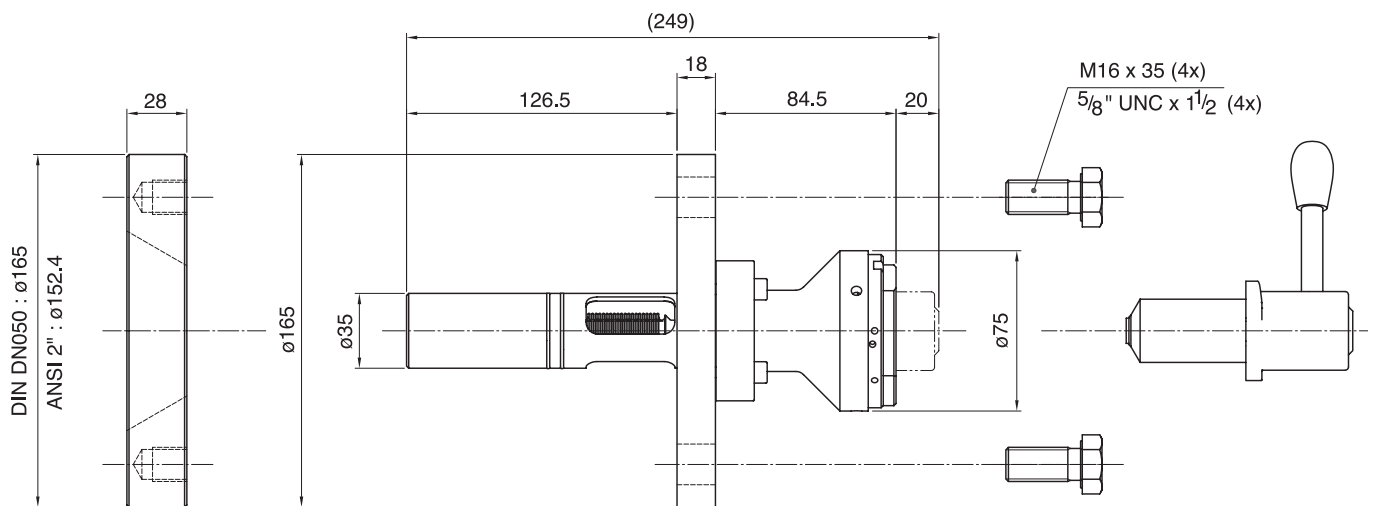
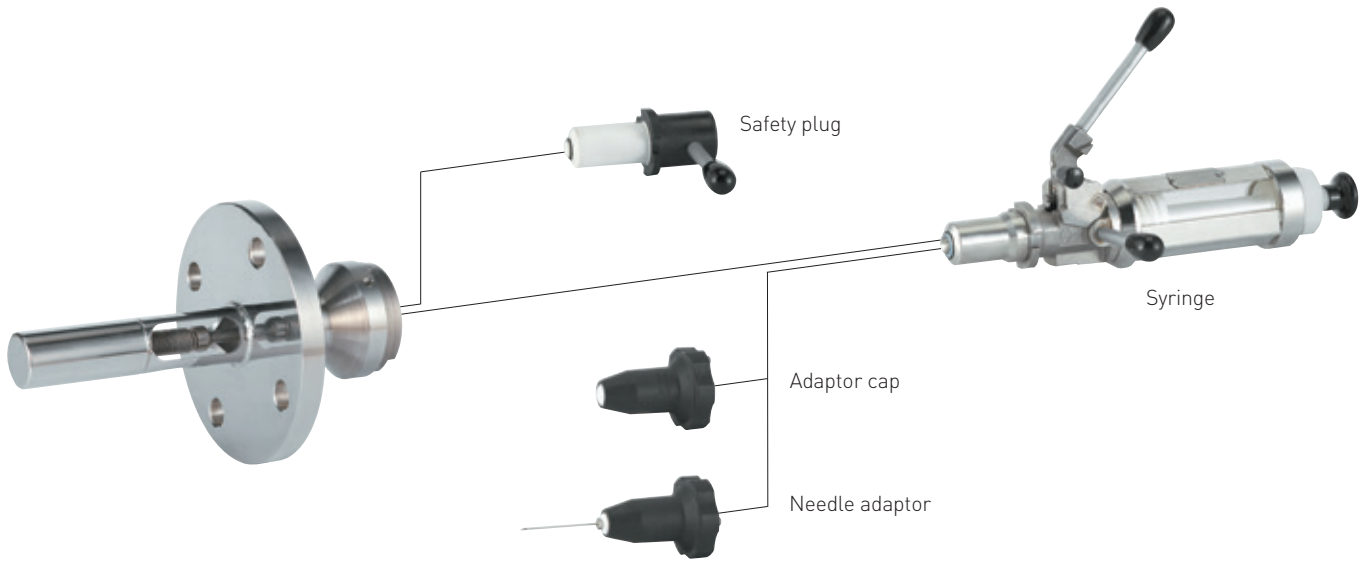


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SYRINGE

Neotecha provides a sampling system with a syringe to achieve a total containment of the sampling medium. Once the sample is taken, the safety plug can be re-inserted in the Sapro Tank valve and the syringe can then be transported to the lab and can be converted to a needle syringe for easy sample transfer.

The syringe serves as both the actuator and the sample container and is available in a variety of materials which can handle light corrosive media.



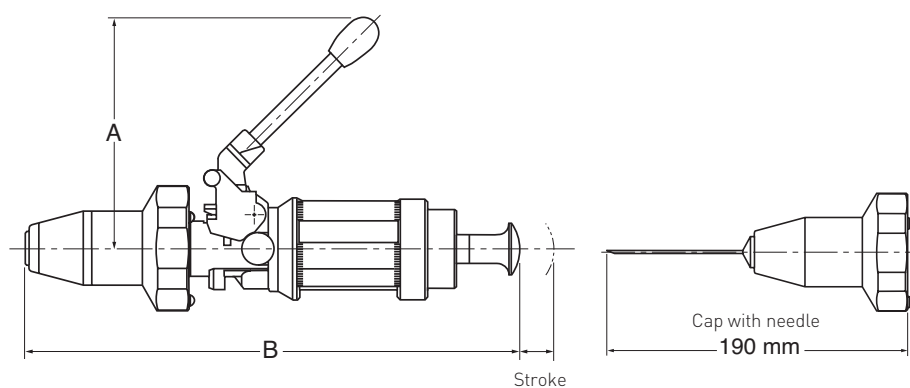
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SYRINGE

SYRINGE WITH CAP

Volume (ml.)	Piston dia. mm	A mm	B mm	Stroke mm	Borosilicate glass	316 SS	Cat.-no.* DIN
					Weight kg	Weight kg	
20	25	140	300	20	1.5	1.9	SK020Z7K1SS00
50	40	140	300	40	1.5	1.9	SK050Z7K1SS00
100	40	140	340	80	1.7	2.1	SK100Z7K1SS00
250	40	140	400	130	2.4	3.0	SK250Z7K1SS00

* Standard syringe = type Z7 with Borosilicate glass and hastelloy spindle. (Other materials see table below)



MATERIAL OF WETTED PARTS

Part	Material		
	Z7	Z1	Z2
Spindle	Hastelloy	SS 316L	SS 316L
Spindle seal	Perfluor elastomer	Perfluor elastomer	Perfluor elastomer
Piston	PTFE	PTFE	PTFE
Cylinder	Borosilicate	SS 316L	Borosilicate glass
Safety cap	Thermoplastic	Thermoplastic	Thermoplastic
Needle SS	SS	SS	SS

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SYRINGE - OPERATION DESCRIPTION

Figure 1 shows the valve and syringe unconnected.

To achieve optimum safety the syringe can only be operated in case it is correctly connected to the Sapro valve.

FIGURE 1

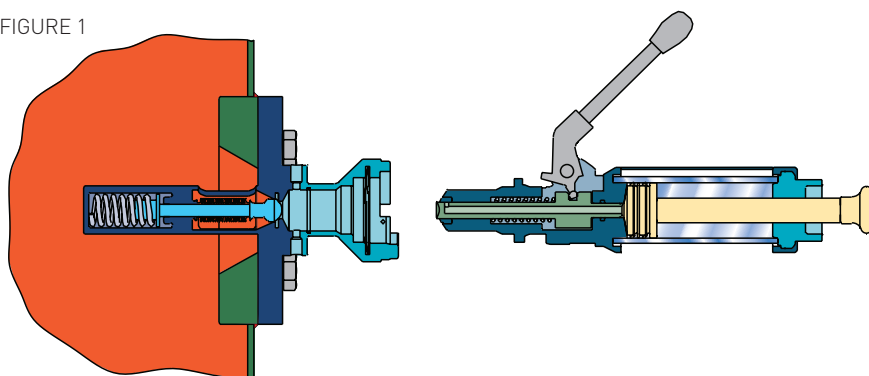


Figure 2 shows the valve and syringe connected in the closed position. By operating lever (1) the spindle (2) of the syringe lifts the spindle (3) of the valve from the seat (4), thus opening the valve so that medium can enter through port (5) into the syringe.

FIGURE 2

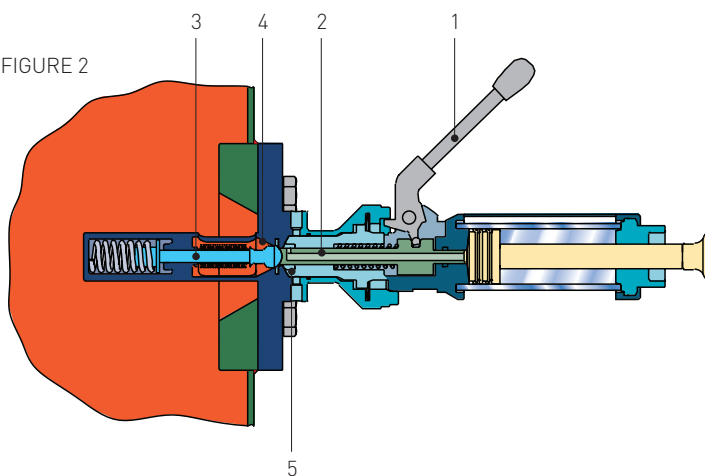


Figure 3 shows the valve and syringe in the open position. The sample can now be taken. If the tank is under pressure, the sample will flow into the syringe through port (5) displacing piston (6). If a vacuum is present, the sample has to be pulled in to the cylinder (7) by pulling the mushroom cap (8) on the end of the piston.

FIGURE 3

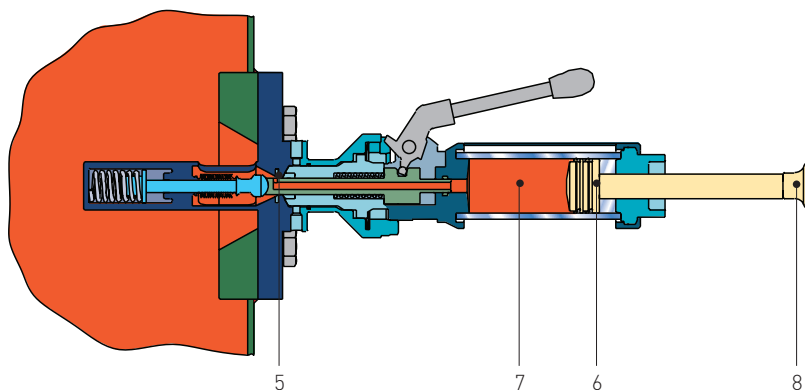
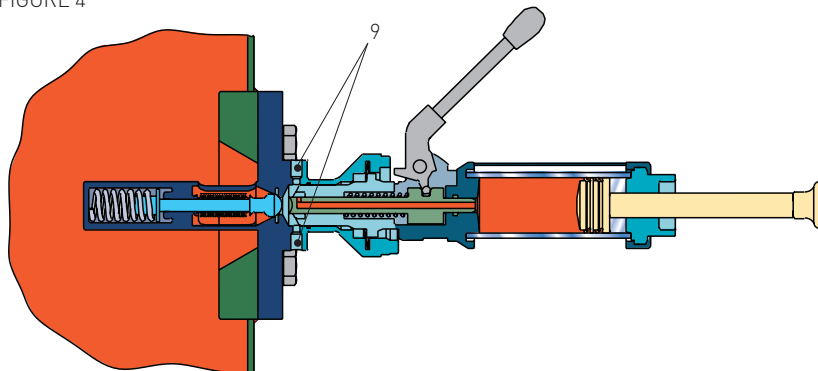


Figure 4 shows the syringe and Sapro in its two step bayonet connection. This position allows to ensure that the valve is properly reseted before disconnection. The bayonet has two intergraded ports (9) to allow rinsing, cleaning and sterilizing the sample passes of the Sapro Tank valve.

FIGURE 4



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BOTTLE COLLECTION METHOD

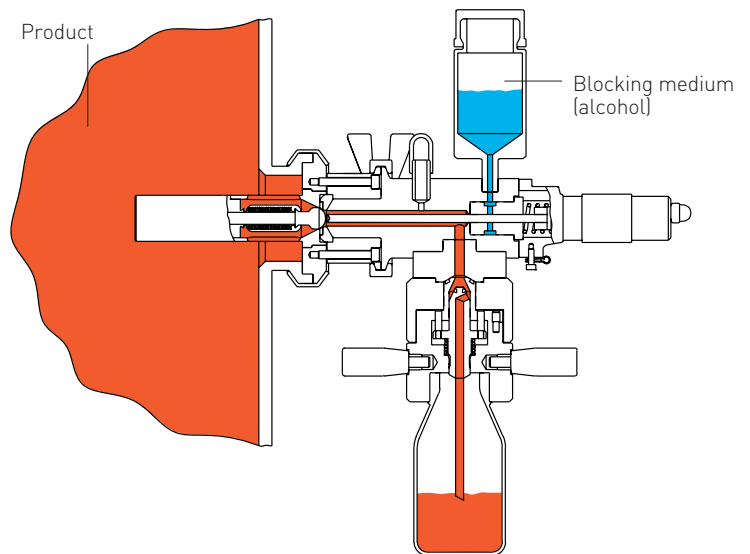
GENERAL FEATURES WITH BOTTLE COLLECTION METHOD

- Aseptic/cleanable design, all wetted parts can be reached with steam, cleaning solvents or inert gas.
- Ability to totally contain sample, offering ultimate purity of sample in aseptic applications, and offers ultimate safety to personnel in toxic chemical applications.
- Simple and safe operation due to the use of a spring return manual lever. This spring loaded lever automatically closes the sampler when it is released.
- The Sapro sampling system assures a 'true representative sample' every time without process interruption.
- Spring housing is totally sealed from the media.
- Valve is self draining (dead spot free).
- Bellow sealed spindle seal.
- The bottle adaptor is provided with a two step disconnect to allow rinsing, cleaning and sterilizing all internal parts.
- The spindle bearing can be filled with alcohol to allow monitoring the stem seal.
- Solves the common problems of:
 - Sample isolation from environment
 - Sample isolation from personnel
 - Excellent cleaning of all wetted/exposed areas.



GENERAL APPLICATIONS

The Sapro Aseptic Tank Sampling valve is used in various industries like food, beverage pharmaceutical industries and biotechnology. In many occasions it is of extreme importance that these samplers are representative, but also remain isolated from the environment during the sample taking process. Equipment used in the sample taking process is generally the largest source of cross contamination. This is due to the fact that the sampling equipment either cannot be completely cleaned to maintain the integrity of the sample as well as process isolation. Neotecha has a solution to the above problems with the Sapro Aseptic Tank Sampling valve



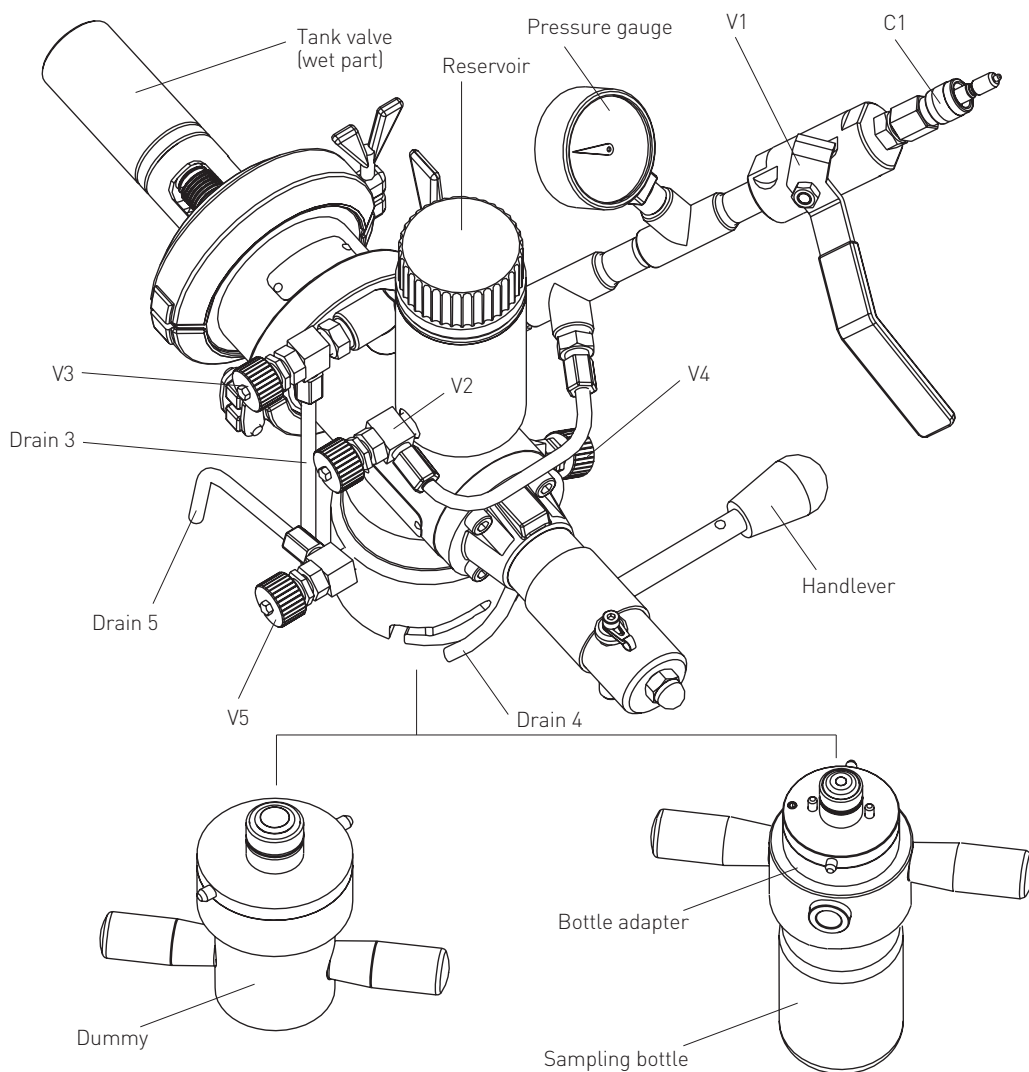
TECHNICAL DATA

Pressure [bar]:	0,1 to 10
Temperature [°C]:	-10 to +160
Bottle connection:	ISO GL45
For use with bottles [ml]:	100 to 2000
Size I-clamp:	3" Cherry Burrell
Size Tri-clamp:	2½"



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BOTTLE COLLECTION METHOD - OPERATION DESCRIPTION



CONNECTIONS AND VALVES

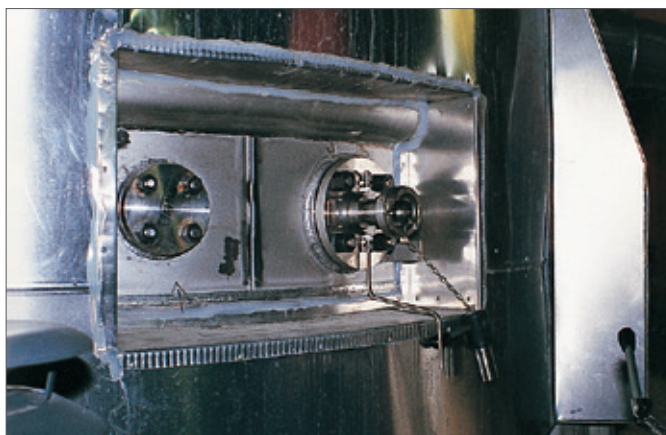
- C1:** Customer connection [Swagelok 1/8"] for:
- Steam inlet to sterilize the sample passage in the actuator and bottle adapter in pos.1.
 - Inlet for any cleaning liquids before taking samples, depending on the medium to sample.
- V1:** Ball valve to control the inlet of the customer connection C1.
- V2:** By opening this valve the alcohol from the reservoir fills the inner part of the tank valve body.
- V3:** Drain valve to control the filling of the tank valve body from the reservoir when no samples are taken. The body is only filled entirely when the alcohol flows through this valve down drain 3.
- V4:** Drain valve for stem blocking media. By taking an alcohol sample at this point the state of blocking media and the stem seal can be monitored.
- V5:** Actuator drain valve. Prior to sterilizing the sample passage this valve must be opened and closed again when sterilizing process is completed.

Reservoir: The purpose of the reservoir is to ensure a constant head of blocking media (alcohol) around the operator stem.

Bottle adapter: Aseptic sampling adapter for bottles with ISO GL45.

Pressure gage: Pressure gauge to control the pressure coming from the customer connection C1.

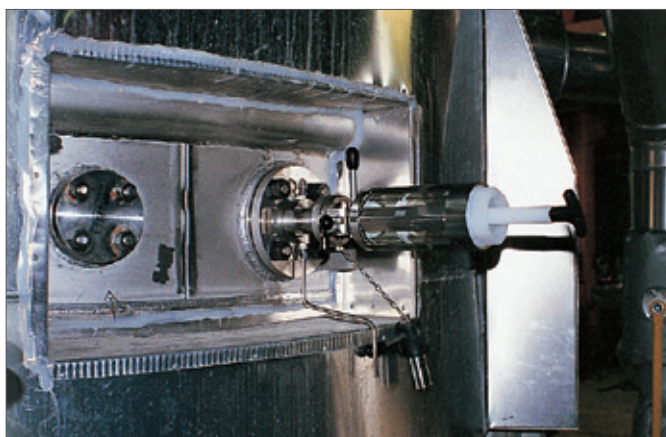
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Tank sampling valve
Insulation and safety plug removed



Tank sampling valve
A sample is taken with a 250 ml syringe



Tank sampling valve
Piston ejector connected



Tank sampling valve
Inside of vessel



Lab stand for syringe

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