



# High Temperature Cells

## 210P, 210P-HP & 210EH, 210EH-HP



The high temperature 210 Cell is a reliable and accurate flow-through sample extraction device, suitable for use as part of an externally pumped, bypass “fast-loop” sampling system.

Available in standard and high-pressure versions, it is the ideal solution for a wide range of liquid sampling applications.

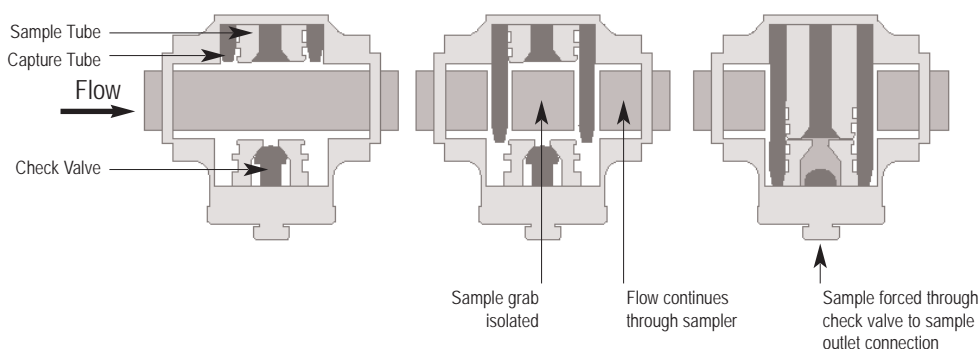
The 210 Cell has a unique three-stage

positive displacement action giving accurate sampling irrespective of variations in process pressure or fluid viscosity. Designed for use with 1-2" diameter lines, the entire stream passes through the body of the device. The flow-through 210 Cell sampler has a bottom exit sample outlet, which avoids any possible water separation, and reduces any dead volume to an insignificant amount within the sampler.

Maintenance and replacement of seals can be performed without removing the sampler from the fast-loop. Established as one of the key instruments in the sampling process for fiscal transfer and quality assessment, the 210 has a vast world-wide installed base and is seen as one of the most reliable platforms on which to build a sampling system.

Data Sheet SI31-0709-1 • High Temperature Cells

### Three stage positive displacement action





## Specification

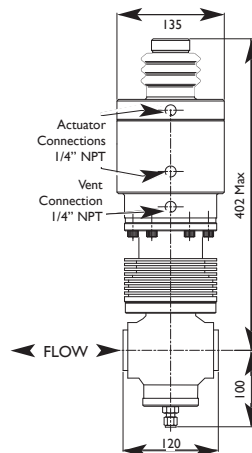
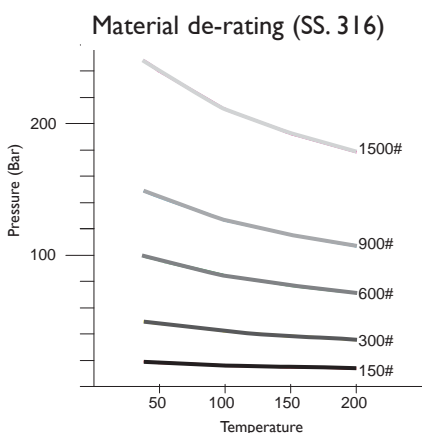
<b>Fluids sampled</b>	Crude oil, refined hydrocarbons (including non-lubricating products) & non corrosive chemicals					
<b>Viscosity range</b>	0.5 to 8000 cSt.					
<b>Process temperature range</b>	Flange dependant - see chart below					
<b>Ambient temperature range</b>	-20°C to +65°C (-4°F to +149°F)					
<b>Max. operating pressure</b> (standard materials of construction) <small>*see chart below for material de-rating</small>	Class	38°C	50°C	100°C	150°C	200°C
	150#	19	18.4	16.2	14.8	13.7
	300#	49.6	48.1	42.2	38.5	35.7
	600#	99.3	96.2	84.4	77	71.3
	900#	148.9	144.3	126.6	115.5	107
	1500#	248.2	240.6	211.0	192.5	178.3
<b>Seal Temperature</b>	-23°C to +250°C (-9.4°F to +482°F) Process wetted parts					
<b>Configuration</b>	Full bore - flow through cell					
<b>Size range</b>	1" to 2" Nominal bore					
<b>Mounting arrangements</b>	1" nominal bore – ANSI class 150, 300 or 600 – wafer type (standard) (1", 1-1/2" & 2" flanged versions available on request)					
<b>Sample grab size (nominal)</b>	1.04cc or 2.04cc					
<b>Grab size repeatability</b>	Better than ±2%					
<b>Grab size adjustment</b>	1cc version ±20% - 2cc version +0 / -10%					
<b>Max. grab rate** (per min)</b>	<b>210P:</b> 100	<b>210P-HP:</b> 50	<b>210EH:</b> 30	<b>210EH-HP:</b> 15		
<b>Sample outlet connection</b>	1/4" Swagelok®					
<b>Standard materials</b>	Pressure retaining:	316/304 Stainless steel				
	Standard seals:	Graphite filled P.T.F.E.				
	Standard O' rings	Viton (Kalrez available*)				
	(NACE certification available*)					
<b>Operating standards and CE compliance</b>	ISO 3171, API 8.2, IP 6.2, PED - 97/23/EC, Machinery directive - 98/37/EC					
<b>Approximate weight</b>	<b>210P:</b> 12.5kg (27lb)	<b>210P-HP:</b> 13.5kg (29lb)	<b>210EH:</b> 12.5kg (27lb)	<b>210EH-HP:</b> 13.5kg (29lb)		

## Actuation data

<b>Actuation method</b>	<b>210P &amp; 210P-HP:</b> Pneumatic	<b>210EH &amp; 210EH-HP:</b> Hydraulic
<b>Air supply range**</b>	<b>210P &amp; 210P-HP</b> 4-10 bar / 60-145 psi (lubricated)	<b>210EH &amp; 210EH-HP:</b> N/A
<b>Air consumption** (30 grabs/min)</b>	<b>210P:</b> 0.47 ft <sup>3</sup> /min[CFM] - (0.8m <sup>3</sup> /hr) @ 5 bar	<b>210P-HP:</b> 1.0 ft <sup>3</sup> /min[CFM] - (1.67m <sup>3</sup> /hr) @ 5 bar
<b>Actuator connections</b>	2 x 1/4" NPT female	

\*Charges made for these items, \*\*ACFM reflects the actual swept volume for 30 sample cycles without allowance for interconnection piping.

\*\*Maximum grab rate, consumption, seal life and supply requirements are dependant on process conditions, i.e. line pressure and fluid viscosity.



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