



210P Cell & 210P-HP Cell

Air actuated flow-through sample extractor



The 210P 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.

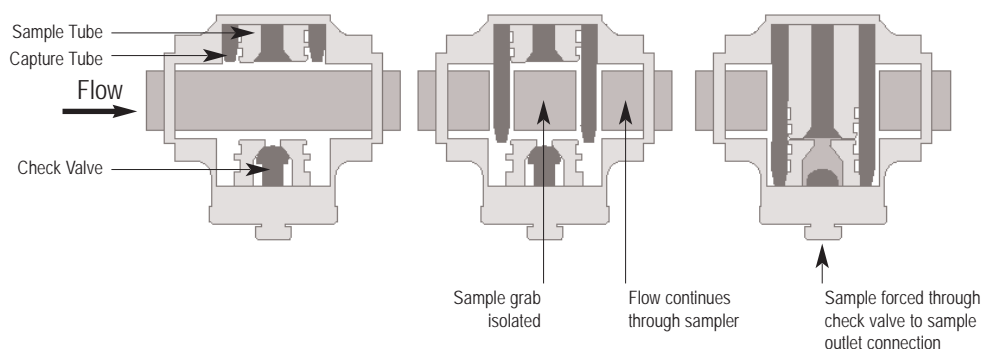
Available in standard and high-pressure (210P-HP) versions, it is the ideal solution for a wide range of liquid sampling applications from natural gas liquid at -20°C to refined products and crude oils up to and above 100°C .

The 210P 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 210P 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 S102-0705-4 • 210P Cell & 210P-HP Cell

Three stage positive displacement action





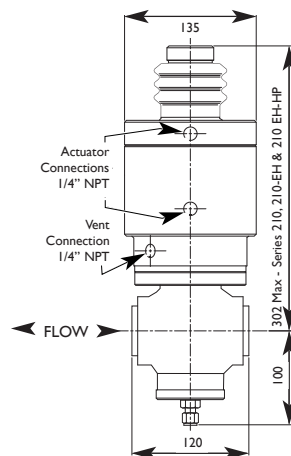
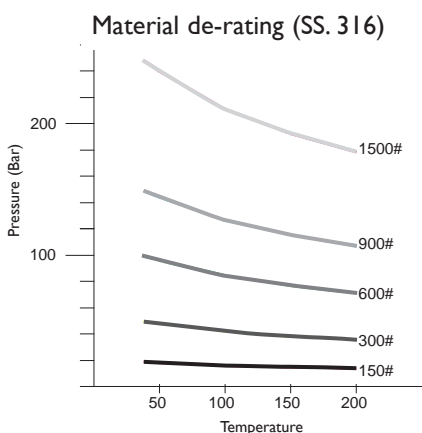
Specification

Fluids sampled	Crude oil, refined hydrocarbons (including non-lubricating products) & non corrosive chemicals					
Viscosity range	0.5 to 8000 cSt.					
Process temperature range	Flange dependant - see chart below					
Ambient temperature range	-20°C to +65°C (-4°F to +149°F)					
Max. operating pressure (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
Seal Temperature	-20°C to +200°C (-4°F to +392°F) Process wetted parts					
Configuration	Full bore - flow through cell					
Size range	1" to 2" Nominal bore					
Mounting arrangements	1" nominal bore – ANSI class 150, 300 or 600 – wafer type (standard) (1", 1-1/2" & 2" flanged versions available on request)					
Sample grab size (nominal)	1.04cc or 2.04cc					
Grab size repeatability	Better than ±2%					
Grab size adjustment	1cc version ±20% - 2cc version +0 / -10%					
Max. grab rate** (per min)	210P: 100			210P-HP: 50		
Sample outlet connection	1/4" Swagelok®					
Standard materials	Pressure retaining:	316/304 Stainless steel				
	Standard seals:	Graphite filled P.T.F.E.				
	Standard O' rings	Viton (Kalrez available*)				
	(NACE certification available)					
Operating standards and CE compliance	ISO 3171, API 8.2, IP 6.2, PED - 97/23/EC, Machinery directive - 98/37/EC					
Approximate weight	210P: 12.5kg (27lb),			210P-HP: 13.5kg (29lb)		

Actuation data

Actuation method	Pneumatic					
Air supply range**	4-10 bar / 60-145 psi (lubricated air recommended)					
Air consumption** (30 grabs/min)	210P: 0.47 ft ³ /min[CFM] - (0.8m ³ /hr) @ 5 bar			210P-HP: 1.0 ft ³ /min[CFM] - (1.67m ³ /hr) @ 5 bar		
Actuator connections	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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