



JISKOOT 210P Probe and 210P-HP Probe Air Actuated In-Line Sample Extractor

Cameron's JISKOOT™ 210P probe is a reliable and accurate sample extraction device, suitable for use as part of an in-line sampling system. Available in standard and high-pressure versions, it is the ideal solution for a wide range of liquid sampling applications, from gas condensate to refined products and crude oils.

The 210P probe has a unique three-stage positive displacement action, giving accurate sampling irrespective of variations in process pressure or fluid viscosity.

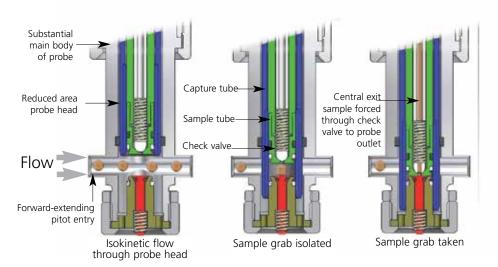
The mechanism that traps the sample is at the end of the insertion device and has a large, pitot-style flow entry, minimizing bluff body effects and improving accuracy.

Designed for use with 8" to 52" pipelines, it is robust enough to be inserted into the central area of the pipeline.

Installing the 210P probe through an isolation valve allows it to be inserted and withdrawn under process conditions by means of a JISKOOT hydraulic extractor (see datasheet).

Established as one of the key instruments in the sampling process for fiscal transfer and quality assessment, the 210P probe has a vast worldwide installed base and is seen as one of the most reliable platforms on which to build a sampling system.





Three-Stage Positive Displacement Action

SERIES 210 SAMPLER - AP 8.2 1995/2005 SELECTION GUIDE

FITTED TO VALVE		8"	' 10)" 12	2" 1	4" 10	6" 1	8"2	0"2	2"2	4"2	6"2	8"3	0" 3:	2"3	4"3	6" 3	8"4	0"4:	2"4	4"4	6"4	8"5	0" 5:	2"
2" 150#A																									
	В																								
2"300#	Α																								
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3"900#	В																								
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Specifications

Fluids Sampled	Crude oil, refined hydrocarbons (including non-lubricating products), and non-corrosive chemicals									
Viscosity Range	0.5 to 4000 cSt									
Ambient Temperature Range	-4° F to 149° F (-20° C to 65° C)									
Maximum Operating Pressure (standard materials of construction)	Class 38° C 50° C 100° C Model 150# 19.6 19.2 17.7 210P 600# 102 100 93 210P or 210P-HP 900# 153 150 139 210P-HP 1500# 255 250 233 210P-HP									
Operating Temperature	Standard and design temperature: -4° F to 194° F (-20° C to 90° C)									
Configuration	In-line withdrawable (non-standard flanges available on request)									
Pipeline Size Range	Sizes A, B, and C – see diagram for suitability									
Mounting Arrangements	3" nominal bore – flanged – ANSI class 150 - 1000 – RF or RTJ (other standard flanges available on request) (56 mm minimum diameter)									
Maximum Pipeline Velocity	Size A: 9.4 m/s, Size B: 6.9 m/s, Size C: 4.8 m/s (dependent on viscosity)									
Sample Grab Size (nominal)	1.04 cc or 2.04 cc (conversion kits available)									
Grab Size Repeatability	Better than ±2%									
Grab Size Adjustment	1 cc version ±20% – 2 cc version +0/-10%									
Maximum Grab Rate**	210P: 120 grabs per minute 210P-HP: 60 grabs per minute (1/2" hose)									
Capture Time	< 250 ms									
Sample Outlet Connection	1/8" NPT female									
Standard Materials	Seal housing: ASTM A350 LF2 carbon steel (316 available*) as class construction above Wetted parts: 316/304 stainless steel (NACE certification available*) Standard seals: Graphite-filled P.T.F.E., standard O-rings: Viton® (Kalrez® available*)									
Operating Standards and CE Compliance	ISO 3171, API 8.2, IP 6.2, PED – 97/23/EC, Machinery directive – 2006/42/EC, ATEX 94/90EEC									
Approximate Weight	210P-HP: 86 lb (39	lb (39 kg)								

Actuation Data

Actuation Method	Pneumatic						
Supply Range	4 to 10 bar/60 to 145 psi** (filtered air recommended)						
Consumption (30 grabs/min)	210P: 0.47 ft³/min [ACFM] – (0.8m³/hr)	210P-HP: 1 ft³/min [ACFM] – (1.9m³/hr)					
Actuator Connections	2 x 1/4" NPT female	210P-HP: 39 kg (86 lb)					

LOCATIONS	North and South America 14450 JFK Blvd. Houston, TX 77032 USA	Europe, Africa, Caspian, and Russia JISKOOT Technology Centre Longfield Road Tunbridge Wells	Asia Pacific Suite 16.02 Menara AmFirst No. 1 Jalan 19/3 46300 Petaling Jaya	Middle East Level 9, Al Jazira Club Tower A PO Box 47280, Muroor Road Abu Dhabi		
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www.c-a-m.com/measurement

^{*} 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 dependent on process conditions, i.e., line pressure and fluid viscosity