

Countum Group

SATAM

Metering Solutions

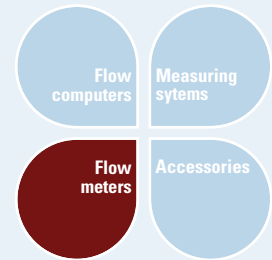


ZC 17

Positive Displacement Meter

The SATAM Positive Displacement Meter (PD meter) is a system with freely-moving blades used to measure petroleum products such as fuels, bio-fuels and refined liquid hydrocarbons.

Its simple design with only two pairs of blades and one moving rotor makes it exceptionally robust and allows the user to make significant savings on maintenance costs.



1. Sectors of application

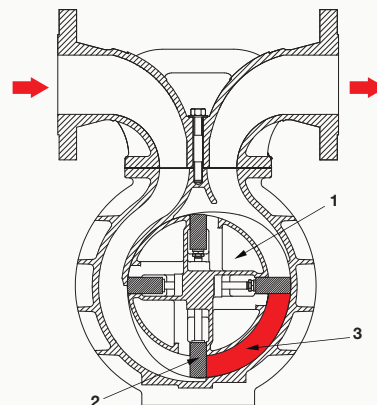
- **Oil depots**
For oil product reception and loading stations for trucks
- **Hydrocarbon transportation**
Distribution of fuel oil or fuel by road tanker
- **Aircraft refuelling**
Aircraft dispensers and aircraft fuelling tankers
- **Army**
Depot supplies and loading of trucks
- **Transport companies**
Refuelling of locomotives, trucks and public transport coaches
- **Marine applications**
Refuelling of ships
- **Mining sites**
Refuelling of trucks or site machinery

2. Operating principle

The product enters the measuring chamber following the direction of the arrow. The rotor and blades assembly (1-2) is set in motion by the pressure of the liquid on blades. A certain amount of liquid (3) is held between 2 blades and then directed to the discharge manifold. The volume of liquid measured at each rotation is therefore equal to 4 times the measured quantity (3). The smooth curves the meter pieces provide a steady, non-fluctuating flow resulting in low head loss.

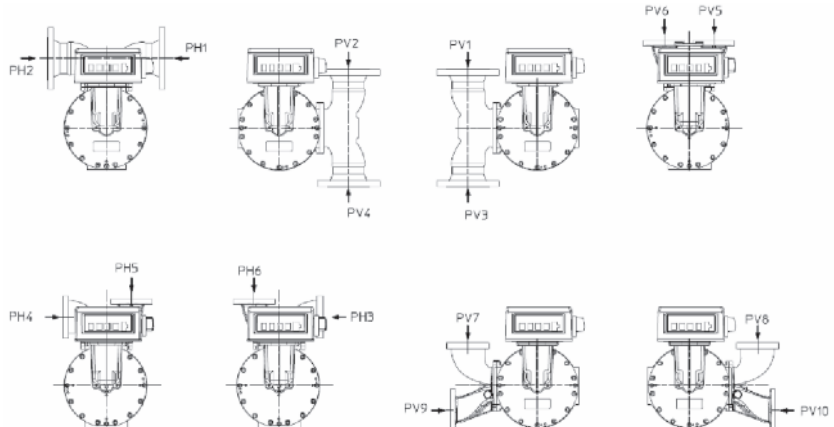
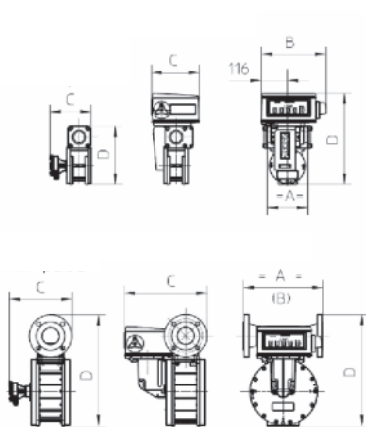
3. Key points

- **Reduced pressure loss**
0.3 to 0.5 bar at maximum flow rate
- **Low maintenance costs**
Simple and robust design with mechanical components interchangeable between the different models
- **Stability of measurements**
Accuracy of measurement guaranteed over a period of many years without any drift in the calibration curve
- **Modular design**
Wide range of accessories for performing customized measurement applications
- **Robust construction**
Flowmeter manifold is separated from measurement chamber to eliminate any possible influence of external mechanical stresses on measurement.
Few moving parts.



Technical data

Model	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330		
Max. Flowrate (m3/h /LPM/USGPM)	12/200/53	24/400/105	48/800/210	80/1333/360	150/2500/660	250/4166/1100	330/5500/1453		
Min. Flowrate (m3/h /LPM/USGPM)	1.2/20/5.3	2.4/40/10.5	4.8/80/21	8/133/36	15/250/66	25/416/110	33/550/145		
Application	Multi-product metering								
Connections	Flanges ASA150		2"	2"	2"	3"	4"		
	Flanges TW					TW1	TW3		
Materials	Manifold		Aluminum		Steel or Aluminum		Steel		
	Casing		Aluminum	Ductile iron or Ni resist iron					
	Front and back flanges		Nickel steel						
	Rotor		Aluminum						
	Blades		Graphite						
	Gaskets		Viton (option nitrile)						
Operating conditions	Pressure		0 to 10 bar / 0 to 150 PSI						
	Viscosity		Maxi : 800 mPa.s						
	Liquid temperature		-40°C (-40°F) to +60°C (+140°F)						
	Ambient temperature		-40°C (-40°F) to +60°C (+140°F)						
	Pressure drop		Max 0,5 bar						
Internal construction	Cyclic volume (litres/USG)		0,33/0.08	0,40/0.10	0,80/0.21	2,27/0.6	4,54/1.12	6,82/1.8	9,09/2.4
Metrological performance	Accuracy		<± 0,15% / Option <± 0,1% / For 10 : 1 measuring range						
	Repeatability		<± 0,02%						
Installation	Straight inlet and outlet sections		Not necessary						
Custody transfer approval	EC Evaluation Certificate N° LNE-11052						-		
Dimensions (mm) and weight	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330		
Distance between flanges (A)	180	180	180	356	432	400	400		
Width (B)	290	290	290	356	432	400	400		
Depth (C)	with mechan.register		220	220	246	365	492	620	
	with pulser		186	186	266	272	399	526	
Height (D)	with mechan.register		368	406	406	502	521	568	
	with pulser		260	260	260	502	521	568	
Weight (kg)	18	22	26	75	95	155	200		
Flanges positions	(flanges ASA150)		PH1, PH2	PH1, PH2	PH1, PH2, PV1, PV2, PV3, PV4			PH1, PH2	
	(flanges TW)		-	-	-	PV5 to PV10	PV5, PV6	-	



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