

## BanksiaControls large capacity flowmeters

**BanksiaControls large capacity flowmeters** are suited for receipt verification, loading, unloading and distribution management at petroleum depots, mine sites, marine and aviation facilities. Common transfer applications involve fuels, oils, solvents, alcohols, along with the blending of bio and ethanol fuels, either pumped, or gravity fed. The meters are compact and light weight in construction. Important benefits when used in mobile installations or within confined spaces.

### Features / Benefits

- High accuracy and repeatability, direct reading flowmeter
- No requirement for flow conditioning (straight pipe runs)
- Various rotor material options
- Measures high and low viscosity liquids
- Quadrature pulse output option & bi-directional flow
- Optional Exd approval (ATEX,IECEX).
- Optional IS/Exd approved Instruments (ATEX, IECEX)

### Meter selection

- **Aluminium** meters are used for petroleum product including oils and grease, fuels and fuel oils.
- **Stainless steel** meters are for the chemical, water based liquids or where Aluminium is not suited or permitted.
- **Blind pulse** meters are available with reed switch and Hall Effect outputs. Quadrature pulse is optional.

### Integral instruments

BanksiaControls meter options include integral LCD totalisers, flow rate totalisers and batch controllers. These instruments provide monitoring and control outputs including 4~20mA, scaled pulse, alarms and batch control and are also available with robust mechanical registers:

- BT LCD 5 digit reset, 8 digit cumulative totaliser.
- F112/F018 LCD 6 digit reset, cumulative totaliser & flow rate. Analogue and Pulse Outputs
- E112/E018 LCD 6 digit reset, cumulative totaliser & flow rate.
- Backlit display.
- EB LCD 6 digit 2 stage batcher & cumulative totaliser.
- M / V\* = Mechanical registers (see model numbering)

(Instruments also available for remote mounting and with I.S. approvals)

### General specification

Flow rates : 35 ~ 2500 litres / min. (10~ 660 USgal/min.) \*

Sizes : 80~100mm (3"~4" NB)

Materials : Aluminium, 316 Stainless steel

\* see also small and medium capacity data sheets for other sized meters

Blind Pulse  
meter



With LCD  
Register



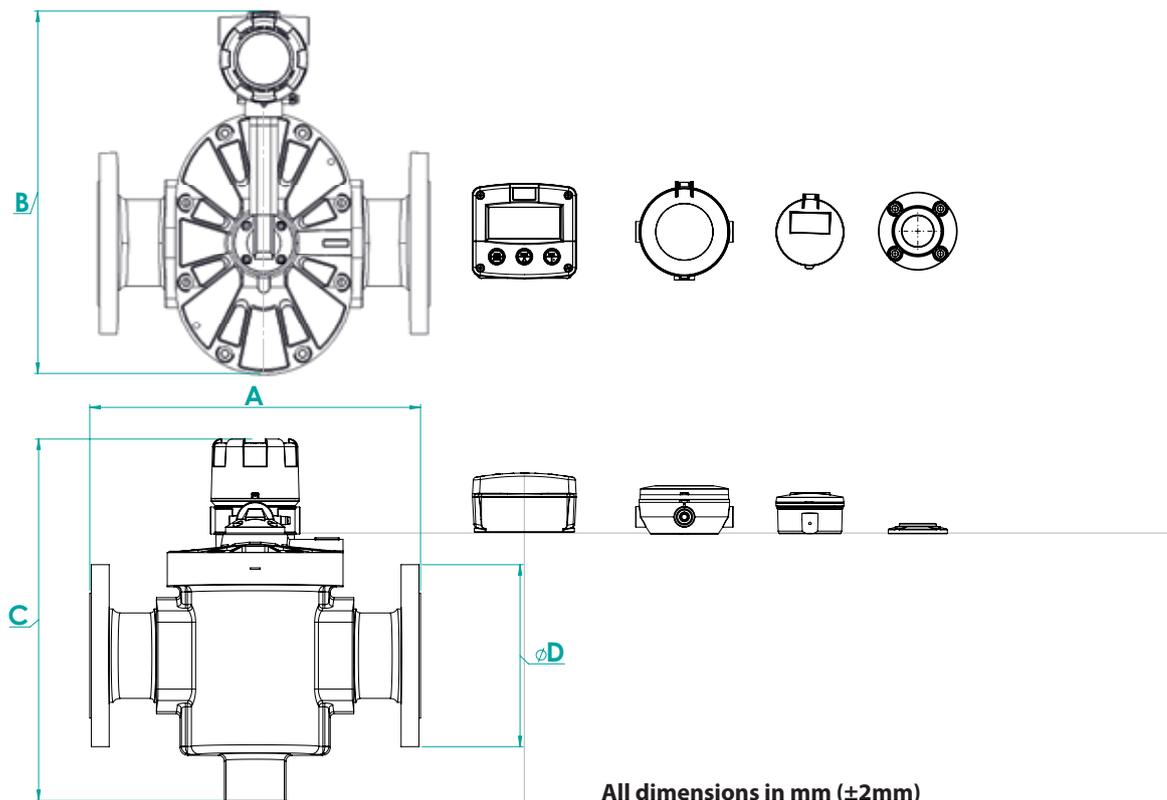
With 4 digit  
mechanical  
register



# Specifications

Model Prefix	OM080 (3")	OM080 (3") E	OM100 (4")	OM100 (4") E
Nominal size ( inches )	80mm (3")	80mm (3") E	100mm (4")	100mm (4") E
*Flow range - (litres/min) (US gal/min)	35 ~ 750 10 ~ 200	50 ~ 1000 13 ~ 260	75 ~ 1500 20 ~ 400	150 ~ 2500 40 ~ 660
**Accuracy @ 3cp	± 0.5% of reading ( accuracy ± 0.2% of reading with optional RT/F/E series with non-linearity correction )			
Repeatability	typically ± 0.03% of reading			
Temperature range	-40°C ~ +120°C ( -40°F ~ +250°F ) (Note: +150°C (302°F) max temp option available with Hall only output)			
Maximum pressure	(Threaded meters) bar (PSI)			
Aluminium meters	12 (175)	12 (175)	10 (145)	10 (145)
316 stainless steel meters	12 (175)	-	-	-
<b>Electrical - for pulse meters ( see below for optional outputs )</b>				
Output pulse resolution	Pulses / litre (pulses / US gallon) - nominal			
Reed switch	2.65 (10)	1.55 (5.68)	1.1 (4.15)	0.56 (2.1)
Hall effect	10.65 (40.5)	6.0 (22.7)	4.4 (8.3)	2.24 (8.5)
Quadrature Hall option	5.33 (20)	3.0 (11.36)	2.2 (8.3)	1.12 (4.24)
Reed switch output	30Vdc x 200mA max. ( maximum thermal shock 10°C (50°F) / minute )			
Hall effect output (NPN)	3 wire open collector, 5~24Vdc max., 20mA max.			
Optional outputs	4~20mA, scaled pulse, quadrature pulse, flow alarms or two stage batch control			
<b>Physical</b>				
Protection class	IP66/67 (NEMA4X) - for pulse meter, IP65 (NEMA 4) - for Mechanical Series. Optional Exd/Exia integral ancillaries can be supplied. Refer to separate approvals for details.			
Overall dimensions	Refer Below			
Recommended filtration	350 microns (40 mesh)			
* Maximum flow is to be reduced as viscosity increases, see flow de-rating guide. Max. Recommended pressure drop is 100Kpa. (15 psi).				
** Accuracy ± 1% of reading with M - Series mechanical registers and accuracy ± 0.5% of reading with V-series mechanical register.				

## Overall Dimensions:



All dimensions in mm (±2mm)

PROCESS	DIM A	DIM A	DIM A	DIM A	DIM D	DIM D	OPTION	DIM C	DIM C	DIM C	DIM C	DIM B	DIM B	DIM B	DIM B
Connections	OM080	OM080E	OM100	OM80E	OM100E, 80E	OM100, 100E		OM080	OM080E	OM100	OM100E	OM080	OM080E	OM100	OM100E
ANSI 150 Flange	482	510	482	482	190	229	E-Series	312	294	457	417	365	417	417	458
ANSI 300 Flange	**	**	**	**	210	254	F-Series	286	291	414	414	238	290	290	331
DIN 16 Flange	345	482	482	482	200	220	RT-Series	270	277	315	399	238	290	290	331
BSP Screwed	394	394	394	394	*	*	BT11	262	269	298	391	238	290	290	331
NPT Screwed	394	394	394	394	*	*	Cap	232	229	279	351	238	290	290	331

# Model Coding - BanksiaControls Pulse Meters

	Meter Size		
	OM080	80mm (3")	35-750 L/min 10-200 GPM
	OM080	80mm (3" extended flow)	50-1000 L/min 13-260 GPM
	OM100	100mm (4")	75-1500 L/min 20-400 GPM
	OM100	100mm (4" extended flow)	150-2500 L/min 40-660 GPM
	<b>Body material</b>		
	A	Aluminium	
	E	Extended flow Aluminium version	
	S	316/L Stainless Steel (Note: 100mm SS unit only available as extended flow)	
	<b>Rotor material</b>		
	0	PPS-Teflon Filled (Polyphenylene Sulfide) (Not available for OM100E)	
	1	Keshi cutting Teflon Filled - PPS rotors (Not available for OM100E)	
	5	Stainless Steel	
	7	Keishi cutting of Stainless Steel rotors (for high viscosity liquids)	
	<b>Bearing type</b>		
	0	No bearing (PPS rotors only)	
	1	Carbon-Ceramic (Standard with Stainless Steel rotors)	
	<b>O-ring material</b>		
	1	Viton (standard); -15°C (+5°F) minimum	
	2	Ethylene Propylene Rubber (EPR); -40~+120°C (-40°F~+250°F)	
	3	Teflon encapsulated silicone - application specific; -40°C (-40°F) minimum	
	4	Buna-N (Nitrile); -40°C~+100°C (-40°F~+212°F)	
	<b>Temperature limits</b>		
080A or 080S Hall only & for O-ring code 1 or 3	2	120°C (250°F) - see note 1	
	3	*150°C (300°F) max.	
	5	*120°C (250°F) max. (Includes integral cooling fin) see note 2	
	<b>Process connections</b>		
	1	BSP female threaded	
	2	NPT female threaded	
*triclamp ferrules are 1/2" larger than the meter size	3	*Tri-clamp hygienic ferrules	
	4	ANSI-150 RF Flanges	
	5	ANSI-300 RF Flanges	
	6	PN16 DIN flanges	
	7	JIS10kg/cm2 flanges	
	9	Customer nominated	
	<b>Cable entries</b>		
	0	3~6mm cable gland	
	1	M20 x 1.5mm	
	2	1/2" NPT	
with B2/B3 options	<b>Cable entries</b>		
	0	3~6mm cable gland (high pressure meter only)	
	1	M20 x 1.5mm	
	2	1/2" NPT	
	<b>Integral options</b>		
		Nil	
	SS	Stainless Steel Terminal Cover	
	RS	Reed Switch only - to suit Intrinsically safe installations	
IECEX & ATEX approved	E1	Explosion proof Exd IIB T4/T6 (aluminium & stainless meters)	
IECEX & ATEX mines approved not available with high press models	E2	Explosion proof Exd IIB T4/T6 (stainless meters only)	
	QP	Quadrature pulse (2NPN phased outputs)	
IECEX & ATEX approved OM004:11200ppl, OM006:4200ppl	Q1	Explosion proof Exd (with quadrature pulse, na with HP meters)	
	HR	High resolution Hall effect output (Hall Effect only)	
IECEX & ATEX approved for injected combustion engines	H1	Explosion proof - Exd with HR Hi-res. Hall option	
IECEX & ATEX approved	PF	Pulsating flow option (Hall effect output only)	
	P1	Explosion proof - Exd with PF pulsating flow option	
	E0	EB10 Batch Controller	
Scaled pulse, alarm, 4 ~ 20mA IECEX & ATEX approved	R5	RT14 Flow Rate Totaliser with all outputs (GRN Housing)	
	R3	Intrinsically safe RT12 (I.S) (GRN Housing)	
	F1	F112 in GRP Encl, Non IS, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
	F2	F112 in GRP Encl, IS Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
	F10	F112 in Alu, Non IS, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
	F11	F112 in Alu, IS Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
Fseries indicators are integrally mounted to flowmeter via screw and gasket	F12	F112 in SS Encl, Non IS, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
	F13	F112 in SS Encl, IS Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
	F18	F018 in Alu, Encl, IS Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse, HART	
	F19	F018 in SS Encl, IS Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse, HART	
	E10	E112 in Alu, Encl, Exd Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
	E11	E112 in SS Encl, Exd Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse	
	E18	F018 in Alu, Encl, Exd Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse, HART	
	E19	F018 in SS Encl, Exd Appr, Battery, DC and LP 4to20mA, Linearisation, OC Pulse, HART	
with scaleable pulse output IECEX & ATEX approved	B2	BT11 dual totaliser (with scaleable pulse output)	
	B3	I.S. intrinsically safe BT 11 including output	
	SB	Specific build requirement	

## Model No. Example

**OM080 A 4 4 1 - 5 1 1 F2**  
(Refer factory for model availability)

### Notes:

\* (1) 120°C (250°F) rating for the pulse meter, 80°C (180°F) rating with BT, RT, EB, F series

See temperature code 5 for higher temperature with BT, RT, EB, F series

\* (2) Cooling fin is fitted with RT, BT & EB, LCD instruments for operation between 80~120°C (180~250°F)

## Model Coding - BanksiaControls Mechanical Meters

	<b>Meter Size</b>	
	OM080	3" (80mm) 35~750 L/min, 10~200 GPM
	OM080	3" extended flow (80mm) 50~1000 L/min, 13~260 GPM
	OM100	4" (100mm) 75~1500 L/min, 20~400 GPM
	OM100	4" extended flow (100mm) 150~2500 L/min, 40~660 GPM
	<b>Body material</b>	
	A	Aluminium
	E	Extended flow Aluminium version (Note: 100mm SS unit only available as extended flow)
	S	316/L Stainless Steel
	<b>Rotor material</b>	
	0	PPS-Teflon Filled (Polyphenol Sulphide) (Not available for OM100E)
	1	Keshi cutting of Teflon Filled - PPS rotors (Not available for OM100E)
	5	Stainless Steel
	7	Stainless Steel - keishi cut for high viscosity liquids
	<b>Bearing type</b>	
	0	No bearing - PPS rotors only
	1	Carbon-Ceramic (Stainless Steel rotors only)
	<b>O-ring material</b>	
	1	Viton (standard); -15°C (+5°F) minimum
	2	Ethylene Propylene Rubber (EPR); -40~+120°C (-40°F~+250°F)
	3	Teflon encapsulated silicone - application specific; -40°C (-40°F) minimum
	4	Buna-N (Nitrile); -40°C~+100°C (-40°F~+212°F)
	<b>Temperature limits</b>	
	8	80°C (180°F) max.
	<b>Process connections</b>	
	1	BSP female threaded
	2	NPT female threaded
	3	*Tri-clamp hygienic ferrules
	4	ANSI-150 RF Flanges
	5	ANSI-300 RF Flanges
	6	PN16 DIN flanges
	7	JIS10kg/cm2 flanges
	9	Customer nominated
	<b>Cable entries</b>	
	0	no cable entry
	<b>Integral options</b>	
	M3	4 digit mechanical totaliser - litres
	M4	4 digit mechanical totaliser - U.S Gallons
	<b>Large digit mechanical registers</b>	
	V1	5 digit mechanical reset register - litres
	V3	5 digit register + 7888 ticket printer - litres
	V5	5 digit register + preset batch register - litres
	V7	5 digit register + preset + 7888 printer - litres
	SB	Specific build requirement
<b>Totaliser Capacities</b>		
99999 litres		
99999 gal		
999999 litres		

\*triclamp ferrules are 1/2" larger than the meter size

### Model No. Example

OM100 A 4 4 1 - 8 1 0 M3