

## Lx Turbine Flowmeters

The Lx range of Turbine Flowmeters meet the demand of most liquid measurement applications .

They basically comprise of three component assemblies , fitted inside a stainless steel body ( locked with an internal circlip ) , which has a magnetic pick up fitted and come in a range of threaded , flanged , wafer ( designed The Rotor & Shaft assembly ( 1 off ) which is mounted between journal bearings inside the Rotor Shaft Support assemblies ( 2 off ) is turned by the kinetic energy of the flowing fluid at an angular velocity , which in the linear range of the Flowmeter is proportional to the mean axial velocity of the fluid .

The Rotor blades sweep out the full bore of the meter except for a small tip clearance space . As the blade tips pass the magnetic pick up they initiate a pulse . Flow rate is determined by the frequency of the pulses and Totalised Flow is obtained by summing the pulses .

“ 101 “ Totalisers , which sum the pulses automatically and display Flow Rate and Total Flow instantly on the readout , can be mounted on the Turbine or fitted remotely .

### GENERAL SPECIFICATIONS

#### Materials

Body	: 316 Stainless Steel .
Rotor Supports	: 316 Stainless Steel .
Journal Bearings	: Tungsten Carbide .
Thrust Ball	: 316 Stainless Steel .
Rotor	: ANC1A Stainless Steel .
Rotor Shaft	: Tungsten Carbide .



#### Performance

Linearity	: +/- 0.5 % ( better than +/- 0.2 % when used with “ 101 “ Totaliser ) .
Repeatability	: +/- 0.1 % .
Temperature	: - 30 °C to + 120 °C ( maximum + 350 °C with optional High Temperature Pick Up ) .
Pressure Drop	: 250 mbar at maximum quoted Flow rate .

#### Style

BSP	: BSPP Male Threaded .	NPT	: NPT Male Threaded .
FL1	: ANSI 150 Flanged .	FL2	: ANSI 300 Flanged .
FL3	: BS 4504 ( DIN ) PN16 .	FL4	: BS 4504 ( DIN ) PN25 .
WAF	: Wafer .	TRI	: Tri – Clamp .



#### Options

HT	: High Temperature Pick Up .
IS	: Intrinsically Safe Pick Up .
2P	: Second Pick Up fitted .

Lx Turbines fitted with the intrinsically safe pick up ( IS option ) are suitable for Hazardous Installations ( Eex ia IIC T4 ) .

**BSP & NPT Style**                      **Maximum Pressure : 250 Bar**

Size	Style	Connection	Flow Range ( litres / min )	Length ( mm )
3/8 "		1/2" BSP or NPT	1 – 10	70
1/2"		1/2" BSP or NPT	2 - 20	70
5/8 "		3/4" BSP or NPT	5 – 50	76
3/4"		3/4" BSP or NPT	14 – 140	76
1"		1" BSP or NPT	27 - 270	88
1 1/2"		1 1/2" BSP or NPT	55 – 550	114
2 "		2" BSP or NPT	114 – 1140	133

**FL1 Style                      Maximum Pressure : 19 Bar                      FL2 Style                      Maximum Pressure : 29 Bar**  
**FL3 Style                      Maximum Pressure : 16 Bar                      FL4 Style                      Maximum Pressure : 25 Bar**

Size	Style	Connection	Flow Range ( litres / min )	Length ( mm )
3/4"		3/4" FL1 , FL2 , FL3 or FL4	14 - 140	140
1 "		1 " FL1 , FL2 , FL3 or FL4	27 – 270	152
1 1/2"		1 1/2" FL1 , FL2 , FL3 or FL4	55 – 550	165
2 "		2 " FL1 , FL2 , FL3 or FL4	114 – 1140	165
3 "		3 " FL1 , FL2 , FL3 or FL4	227 – 2270	165
4 "		4 " FL1 , FL2 , FL3 or FL4	454 – 4540	210
6 "		6 " FL1 , FL2 , FL3 or FL4	908 - 9080	240

**WAF Style**                      **Maximum Pressure : 100 Bar**

Size	Style	Connection	Flow Range ( litres / min )	Length ( mm )
3/4"		43 mm R.F. Diameter	14 – 140	50
1 "		52 mm R.F. Diameter	7 - 70	50
1 1/2"		73 mm R.F. Diameter	14.5 - 145	64
2 "		92 mm R.F. Diameter	30 - 300	76
3 "		127 mm R.F. Diameter	60 – 600	100

**TRI Style**                      **Maximum Pressure : 68 Bar**

Size	Style	Connection	Flow Range ( litres / min )	Length ( mm )
3/4"		1 " Ferrule	3.5 – 35	50
1 "		1 1/2" Ferrule	7 – 70	64
1 1/2"		2 " Ferrule	14.5 – 145	88
2 "		2 1/2" Ferrule	30 - 300	100

**Order code : Lx / Style / Size / ( Option )**

e.g. : Lx / WAF / 2 " / HT

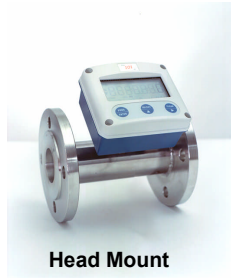
Internals Kit 's ( calibrated ) can be supplied , which are very easy to retrofit in to an existing Body on location , ( eliminating the need to return the Turbine ) .

**Lx Internals Kit Order code : Lx / Style / Size**

e.g. : Lx / NPT / 1/2

**Lx Turbines can be “ custom made to your requirements “**

## 101 Totalisers



Head Mount

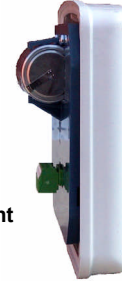


Remote Mount

### GENERAL SPECIFICATIONS

Display	: Large LCD 40mm x 90mm , with seven 17mm and eleven 8mm digits .
Control Buttons	: Three touch buttons on U.V. resistant polyester key pad .
Casing	: High Impact , U.V. resistant , flameproof ABS – IP 66 case .
Dimensions	: 130mm x 114mm x 71mm ( L x H x D ) .
Operating Temperature	: - 20 ° C to +70 ° C .
Configuration	: Configuration is done at SET UP level .
Password	: All settings can be password protected .
Data Protection	: EEPROM back up of all settings . Accumulated Total backed up every minute .
Input Frequency	: 0.01 Hz to 10 kHz .
Selectable Units	: TOTAL : L , GAL , bbl ( barrels ) , m <sup>3</sup> , kg , lb or no unit in 0.67 " digits . : FLOWRATE : L , GAL , bbl ( barrels ) , cf , m <sup>3</sup> , kg , lb or no unit in 0.32 " digits : TIME UNITS : / second , / minute , / hour or / day .
Tag Number	: A seven digit identification number can be entered for Screen notification .
Environment	: EMC compliant ref : EN50081 and EN50082 .

Panel Mount



### MODELS

#### 101 Totaliser and Flow Rate Indicator

Features	: Totaliser and Flow Rate indication with Linearisation .
Power	: 3 V Lithium Battery ( average life 5 years ) , although an 8 – 28 V D.C. supply can be connected .
Information	: Total , Flow Rate , Accumulated Total and measurement units . # Total can be reset to zero . Accumulated Total is not resettable .

**101 I Suitable for Hazardous Area Installation . Eex ia IIC T4 .**

#### 101 a Totaliser and Flow Rate Indicator with Analogue and Pulse output

Features	: Totaliser and Flow Rate indication with Linearisation . 4 – 20 mA output in relation to Flowrate . Pulse output in relation to Accumulated Total .
Power	: 3 V Lithium Battery ( average life 5 years ) , although an 8 – 28 V A.C. / D.C. supply or 4 – 20 mA loop ( 28 V max ) can be connected .
Information	: Total , Flow Rate , Accumulated Total and measurement units . # Total can be reset to zero . Accumulated Total is not resettable .

**101 ai Suitable for Hazardous Area Installation . Eex ia IIB T4 .**

### 101 b Totaliser and Batch Controller with Pulse output

This Batch Controller is a straight forward device offering exactly what is required for the majority of applications . The operator can enter a preset batch value easily or execute repeated batches . During the batch run , the preset batch value is displayed as well as the batched quantity and units of measurement . An overrun correction ensures an accurate batch quantity . The running batch quantity ( 0.67 " digits ) can be set to count up or down . Two transistor outputs are available for either 1) pulse output and one stage batch control or 2) two stage batch control .

- Features : Preset Batch Value indication .  
Overrun correction .  
Pulse output mirroring count on display .  
One or Two stage batch control .
- Power : 3 V Lithium Battery ( average life 5 years ) , although an 8 – 28 V A.C. / D.C. supply can be connected .
- Information : Preset Batch Value , Quantity Batched , Total , Accumulated Total and measurement units .  
# Total can be reset to zero . Accumulated Total is not resettable .

**101 bi Suitable for Hazardous Area Installation . Eex ia IIB T4 .**

### 101 c Totaliser and Flow Rate Indicator with Critical Alarm output

- Features : Totaliser and Flow Rate indication .  
High and Low Alarm Flowrate Monitoring .  
Two Alarm Outputs .  
4 – 20 mA output in relation to Flowrate .
- Power : 3 V Lithium Battery ( average life 5 years ) , although an 8 – 28 V A.C. / D.C. supply can be connected .
- Information : Total , Flow Rate , Accumulated Total , Alarm Points and measurement units .  
# Total can be reset to zero . Accumulated Total is not resettable .

**101 ci Suitable for Hazardous Area Installation . Eex ia IIB T4 .**

### 101 d Totaliser , Flow Rate and Direction of Flow Indicator

- Features : Totaliser and Flow Rate indication .  
Quadrature input for bi – directional measurement .  
4 – 20 mA output in relation to Flowrate .  
Pulse output in relation to Accumulated Total .  
Flow Direction output .
- Power : 3 V Lithium Battery ( average life 5 years ) , although an 8 – 28 V A.C. / D.C. supply can be connected .
- Information : Total , Flow Rate , Accumulated Total , Flow Direction and measurement units .  
# Total can be reset to zero . Accumulated Total is not resettable .

**101 di Suitable for Hazardous Area Installation . Eex ia IIB T4 .**

Options ( available on models a , b , c and d )

PS : 80 – 230 V A.C. Power Supply

MC : Modbus Communication RS 485

Order code : Model / ( Option )

e.g. : 101a / PS