

## Working principle

VFM60 is a powerful flow meter utilizing “Karman vortex” theory, which can meet the requirement of measuring the flow rate of various fluids such as gas, steam and liquid.

## Special features

- Super low flow measurement down to 2m/s
- Unique dual sensor technology excellent in anti-vibration
- Multi-variable flow meter, measures flow rate, temperature, pressure, FAD measurement available
- Blue tooth function optional, can read and set on COMATE APP with and smart phone or pad
- Self-diagnose function plus remote diagnose function, ensure easier trouble-shooting.
- No mechanical wear part



## Features

|                      |                                                                                                                                                                                                                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process Fluids       | Used in liquid, gas, and steam applications. Fluids must be homogeneous and single-phase.                                                                                                                                                                                                                      |
| Line Sizes           | The wafer and flanged type cover line sizes as below.<br>0.5", 0.75", 1", 1.5", 2", 2.5", 3", 4", 5", 6", 8", 10", 12",<br>(DN15, DN20, DN25, DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, DN250, DN300)<br>The insertion type covers DN300~1000.                                                       |
| Process connection   | Flange, wafer, insertion, ANSI, JIS, DIN Standard flanges are optional for flanged connection                                                                                                                                                                                                                  |
| Display              | Integral or remote. 3 buttons control. 2 lines LCD display.<br>1st line has 5 digits to display mass flow or volume flow or frequency or temperature or pressure<br>2nd line has 8 digits to display total flow<br>A small extra line above 1st line will indicate what parameter being displayed in 1st line. |
| Measurable parameter | Standard version: Volume flow rate in pipe (Can measure mass flow rate, temperature and pressure if wired to separate RTD and pressure transmitter.)<br>Multi-variable version: Mass flow rate, volume flow rate in standard condition, temperature, pressure, volume flow rate in pipe, velocity.             |
| Output signal        | Pulse, high level $\geq 5V$ , low level $< 1V$ , 50% duty ratio<br>4~20mA (HART@4~20mA)<br>ModBus-RTU RS485                                                                                                                                                                                                    |
| Pressure allowance   | 1.6MPa (232 psiG)、2.5MPa (362 psiG)、4.0MPa (580 psiG)、6.3Mpa (913 psiG) for option                                                                                                                                                                                                                             |

## Intelligent Sensor VFM60N/MV Vortex flow meter

### Measurement range

| Medium | Min Velocity                                         | Max Velocity       |
|--------|------------------------------------------------------|--------------------|
| Gas    | 6m/s for DN15、DN20<br>(19.7 ft/s) for 0.5" and 0.75" | 60m/s (196.9 ft/s) |
|        | 4m/s, DN25、DN32<br>(13.1 ft/s) for 1" and 1.25"      |                    |
|        | 2m/s, DN40 ~ DN300<br>(6.7 ft/s) for 1.5" ~ 1.2"     |                    |
|        |                                                      |                    |
| Steam  | 6m/s for DN15、DN20<br>(19.7 ft/s) for 0.5" and 0.75" | 70m/s (229.7 ft/s) |
|        | 4m/s, DN25、DN32<br>(13.1 ft/s) for 1" and 1.25"      |                    |
|        | 2m/s, DN40 ~ DN300<br>(6.7 ft/s) for 1.5" ~ 1.2"     |                    |
|        |                                                      |                    |
| Liquid | 0.3m/s (1 ft/s)                                      | 7m/s (23 ft/s)     |



VFM60N Standard type vortex meter  
without temperature & pressure  
compensation

### Specification

|                                            |                                                                     |                                                                                              |
|--------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Process connection                         | Flange<br>Wafer                                                     | DN15~DN300 or 0.5 inch to 12 inch<br>DN15~DN300 or 0.5 inch to 12 inch                       |
| Medium temperature                         | Standard<br>Medium<br>High                                          | -40 ~ 150 °C or -40 ~ 302 °F<br>-40 ~ 250 °C or -40 ~ 482 °F<br>-40 ~ 350 °C or -40 ~ 662 °F |
| Power supply                               | 4~20mA 2 wise system<br>VFM60MV with 4~20mA (2 wire )<br>Modbus RTU | 13.5 ~ 42V<br>15.5 ~ 42V<br>Current Iq < 9mA 13.4 ~ 42V                                      |
| Reynolds and accuracy                      | Gas/steam (m³/h)                                                    | ±1%RD (Re ≥ 20000)<br>±2%RD (10000 < Re < 20000)                                             |
|                                            | Liquid (m³/h)                                                       | ±0.75%RD (Re ≥ 20000)<br>±2%RD (10000 < Re < 20000)                                          |
|                                            | Gas/steam (m³/h)                                                    | ±1.5%RD (Re ≥ 20000)<br>±2.5%RD (10000 < Re < 20000)                                         |
| Turndown ratio                             | Gas                                                                 | 1:30                                                                                         |
|                                            | Steam                                                               | 1:35                                                                                         |
|                                            | Liquid                                                              | 1:35                                                                                         |
| Repeatability                              | Volume flow                                                         | ±0.3%                                                                                        |
|                                            | Mass flow                                                           | ±0.3%                                                                                        |
|                                            | Temperature                                                         | ±0.05 °C                                                                                     |
|                                            | Pressure                                                            | ±0.05%FS                                                                                     |
| Upstream/Downstream requirements           |                                                                     | 15 x D / 5 x D<br>Details please check in manual                                             |
| Viscosity allowance                        |                                                                     | DN15 or 0.5 inch ≤ 4mPas<br>DN25 or 1 inch ≤ 5mPas<br>DN40~DN300 or 1.5~12 inch ≤ 7mPas      |
| Anti-vibration (both punch and fixed freq) |                                                                     | 0.5g                                                                                         |
| Display                                    |                                                                     | LCD display                                                                                  |
| Saturated /superheated steam measurement   |                                                                     | Support                                                                                      |
| Natural gas/Biogas, ect                    |                                                                     | Support                                                                                      |
| Communication                              |                                                                     | HART(V5、 V7)/ Modbus-RTU/ Pulse                                                              |
| Explosive proof                            |                                                                     | NEPSI Ex d II c T3 Gb                                                                        |



VFM60MV Multi-variable  
Vortex Meter standard type  
support up to 150 °C



VFM60MV Multi-variable  
Vortex Meter high temperature  
support up to 350°C

### Actual flow measuring range

| Pipe size      | Steam/gas actual flow |                   |                       |                       | liquid actual flow |                   |                 |                 |
|----------------|-----------------------|-------------------|-----------------------|-----------------------|--------------------|-------------------|-----------------|-----------------|
|                | Min flow<br>m³/hr     | Max flow<br>m³/hr | Min flow<br>cu.ft/min | Max flow<br>cu.ft/min | Min flow<br>m³/hr  | Max flow<br>m³/hr | Min flow<br>GPM | Max flow<br>GPM |
| 15mm 0.5 inch  | 3.8                   | 44.5              | 2.2                   | 26.2                  | 0.2                | 4.4               | 0.8             | 19.6            |
| 20mm 0.75 inch | 6.8                   | 79.1              | 4                     | 46.6                  | 0.3                | 7.9               | 1.5             | 34.8            |
| 25mm 1 inch    | 7.1                   | 123.6             | 4.2                   | 72.7                  | 0.5                | 12.4              | 2.3             | 54.4            |
| 32mm 1.25 inch | 11.6                  | 202.5             | 6.8                   | 119.2                 | 0.9                | 20.2              | 3.8             | 89.2            |
| 40mm 1.5 inch  | 9                     | 316.4             | 5.3                   | 186.2                 | 1.4                | 31.6              | 6.0             | 139.3           |
| 50mm 2 inch    | 14.1                  | 494.4             | 8.3                   | 291                   | 2.1                | 49.4              | 9.3             | 217.7           |
| 65mm 2.5 inch  | 23.9                  | 835.5             | 14                    | 491.7                 | 3.6                | 83.5              | 15.8            | 367.8           |
| 80mm 3 inch    | 36.2                  | 1265.5            | 21.3                  | 744.9                 | 5.4                | 126.6             | 23.9            | 557.2           |
| 100mm 4 inch   | 56.5                  | 1977.4            | 33.3                  | 1163.9                | 8.5                | 197.7             | 37.3            | 870.6           |
| 125mm 5 inch   | 88.3                  | 3089.7            | 52                    | 1818.5                | 13.2               | 309.0             | 58.3            | 1360.4          |
| 150mm 6 inch   | 127.1                 | 4449.2            | 74.8                  | 2618.7                | 19.1               | 444.9             | 84.0            | 1958.9          |
| 200mm 8 inch   | 226                   | 7909.6            | 133                   | 4655.4                | 33.9               | 791.0             | 149.3           | 3482.5          |
| 250mm 10 inch  | 353.1                 | 12358.8           | 207.8                 | 7274.1                | 53.0               | 1235.9            | 233.2           | 5441.4          |
| 300mm 12 inch  | 508.5                 | 17796.6           | 299.3                 | 10474.7               | 76.3               | 1779.7            | 335.8           | 7835.6          |

### Saturated steam measuring range—Metric unit flow rate in kg/hr

| Pipe size      | T=121 dgrC<br>P=1 barG<br>D=1.155 kg/m³ |         | T=144 dgrC<br>P=3 barG<br>D=2.185 kg/m³ |         | T=159 dgrC<br>P=5 barG<br>D=3.182 kg/m³ |         | T=165 dgrC<br>P=6 barG<br>D=3.671 kg/m³ |         | T=171 dgrC<br>P=7 barG<br>D=4.218 kg/m³ |         |
|----------------|-----------------------------------------|---------|-----------------------------------------|---------|-----------------------------------------|---------|-----------------------------------------|---------|-----------------------------------------|---------|
|                | Max                                     | Min     | Max                                     | Min     | Max                                     | Min     | Max                                     | Min     | Max                                     | Min     |
| 15mm 0.5 inch  | 4.4                                     | 51.4    | 8.3                                     | 97.2    | 12.1                                    | 141.6   | 14                                      | 163.3   | 16.1                                    | 187.7   |
| 20mm 0.75 inch | 7.8                                     | 91.4    | 14.8                                    | 172.8   | 21.6                                    | 251.7   | 24.9                                    | 290.4   | 28.6                                    | 333.6   |
| 25mm 1 inch    | 8.2                                     | 142.7   | 15.4                                    | 270     | 22.5                                    | 393.3   | 25.9                                    | 453.7   | 29.8                                    | 521.3   |
| 32mm 1.25 inch | 13.4                                    | 233.9   | 25.3                                    | 442.4   | 36.8                                    | 644.3   | 42.5                                    | 743.3   | 48.8                                    | 854.1   |
| 40mm 1.5 inch  | 10.4                                    | 365.4   | 19.8                                    | 691.3   | 28.8                                    | 1006.7  | 33.2                                    | 1161.4  | 38.1                                    | 1334.5  |
| 50mm 2 inch    | 16.3                                    | 571     | 30.9                                    | 1080.2  | 44.9                                    | 1573    | 51.9                                    | 1814.8  | 59.6                                    | 2085.2  |
| 65mm 2.5 inch  | 27.6                                    | 964.9   | 52.2                                    | 1825.5  | 76                                      | 2658.4  | 87.6                                    | 3066.9  | 100.7                                   | 3523.9  |
| 80mm 3 inch    | 41.8                                    | 1461.7  | 79                                      | 2765.2  | 115.1                                   | 4026.9  | 132.7                                   | 4645.8  | 152.5                                   | 5338    |
| 100mm 4 inch   | 65.3                                    | 2283.9  | 123.4                                   | 4320.6  | 179.8                                   | 6292.1  | 207.4                                   | 7259    | 238.3                                   | 8340.7  |
| 125mm 5 inch   | 102                                     | 3568.6  | 192.9                                   | 6751    | 280.9                                   | 9831.4  | 324.1                                   | 11342.2 | 372.4                                   | 13032.3 |
| 150mm 6 inch   | 146.8                                   | 5138.8  | 277.8                                   | 9721.4  | 404.5                                   | 14157.2 | 466.7                                   | 16332.8 | 536.2                                   | 18766.5 |
| 200mm 8 inch   | 261                                     | 9135.6  | 493.8                                   | 17282.5 | 719.1                                   | 25168.4 | 829.6                                   | 29036.2 | 953.2                                   | 33362.7 |
| 250mm 10 inch  | 407.8                                   | 14274.4 | 771.5                                   | 27003.9 | 1123.6                                  | 39325.6 | 1296.3                                  | 45369   | 1489.4                                  | 52129.2 |
| 300mm 12 inch  | 587.3                                   | 20555.1 | 1111                                    | 38885.6 | 1618                                    | 56628.8 | 1866.6                                  | 65331.4 | 2144.7                                  | 75066.1 |

| Pipe size      | T=176 dgrC<br>P=8 barG<br>D=4.723 kg/m³ |         | T=185 dgrC<br>P=10 barG<br>D=5.752 kg/m³ |          | T=192 dgrC<br>P=12 barG<br>D=6.671 kg/m³ |          | T=199 dgrC<br>P=14 barG<br>D=7.706 kg/m³ |          | T=215 dgrC<br>P=20 barG<br>D=10.57 kg/m³ |          |
|----------------|-----------------------------------------|---------|------------------------------------------|----------|------------------------------------------|----------|------------------------------------------|----------|------------------------------------------|----------|
|                | Max                                     | Min     | Max                                      | Min      | Max                                      | Min      | Max                                      | Min      | Max                                      | Min      |
| 15mm 0.5 inch  | 18                                      | 210.1   | 21.9                                     | 255.9    | 25.4                                     | 296.8    | 29.4                                     | 342.9    | 40.3                                     | 470.3    |
| 20mm 0.75 inch | 32                                      | 373.6   | 39                                       | 455      | 45.2                                     | 527.6    | 52.2                                     | 609.5    | 71.7                                     | 836      |
| 25mm 1 inch    | 33.4                                    | 583.7   | 40.6                                     | 710.9    | 47.1                                     | 824.5    | 54.4                                     | 952.4    | 74.6                                     | 1306.3   |
| 32mm 1.25 inch | 54.6                                    | 956.3   | 66.6                                     | 1164.7   | 77.2                                     | 1350.8   | 89.2                                     | 1560.4   | 122.3                                    | 2140.3   |
| 40mm 1.5 inch  | 42.7                                    | 1494.3  | 52                                       | 1819.8   | 60.3                                     | 2110.6   | 69.7                                     | 2438.1   | 95.5                                     | 3344.2   |
| 50mm 2 inch    | 66.7                                    | 2334.8  | 81.2                                     | 2843.5   | 94.2                                     | 3297.8   | 108.8                                    | 3809.5   | 149.3                                    | 5225.3   |
| 65mm 2.5 inch  | 112.7                                   | 3945.8  | 137.3                                    | 4805.5   | 159.2                                    | 5573.3   | 183.9                                    | 6438     | 252.3                                    | 8830.7   |
| 80mm 3 inch    | 170.8                                   | 5977.1  | 208                                      | 7279.4   | 241.2                                    | 8442.4   | 278.6                                    | 9752.2   | 382.2                                    | 13376.7  |
| 100mm 4 inch   | 266.8                                   | 9339.3  | 325                                      | 11374    | 376.9                                    | 13191.2  | 435.4                                    | 15237.9  | 597.2                                    | 20901.1  |
| 125mm 5 inch   | 416.9                                   | 14592.6 | 507.8                                    | 17771.9  | 588.9                                    | 20611.3  | 680.3                                    | 23809.1  | 933.1                                    | 32658    |
| 150mm 6 inch   | 600.4                                   | 21013.3 | 731.2                                    | 25591.5  | 848                                      | 29680.3  | 979.6                                    | 34285.2  | 1343.6                                   | 47027.5  |
| 200mm 8 inch   | 1067.3                                  | 37357.1 | 1299.9                                   | 45496    | 1507.6                                   | 52765    | 1741.5                                   | 60951.4  | 2388.7                                   | 83604.5  |
| 250mm 10 inch  | 1667.7                                  | 58370.4 | 2031.1                                   | 71087.6  | 2355.6                                   | 82445.3  | 2721                                     | 95236.6  | 3732.3                                   | 130632.1 |
| 300mm 12 inch  | 2401.5                                  | 84053.4 | 2924.7                                   | 102366.1 | 3392                                     | 118721.2 | 3918.3                                   | 137140.7 | 5374.6                                   | 188110.2 |



## Intelligent Sensor VFM60N/MV Vortex flow meter

### saturated steam measuring range—Imperial unit flow rate in lb/hr

| Pipe size |           | T=249.8 dgrF<br>P=14.5 pisG<br>D=0.0721 lb/ft <sup>3</sup> |         | T=291.2 dgrF<br>P=43.5 pisG<br>D=0.1364 lb/ft <sup>3</sup> |         | T=318.2 dgrF<br>P=72.5 pisG<br>D=0.1986 lb/ft <sup>3</sup> |          | T=329 dgrF<br>P=87 pisG<br>D=0.2292 lb/ft <sup>3</sup> |          | T=339.8 dgrF<br>P=101.5 pisG<br>D=0.2633 lb/ft <sup>3</sup> |          |
|-----------|-----------|------------------------------------------------------------|---------|------------------------------------------------------------|---------|------------------------------------------------------------|----------|--------------------------------------------------------|----------|-------------------------------------------------------------|----------|
|           |           | Max                                                        | Min     | Max                                                        | Min     | Max                                                        | Min      | Max                                                    | Min      | Max                                                         | Min      |
| 15mm      | 0.5 inch  | 9.7                                                        | 113.3   | 18.4                                                       | 214.3   | 26.8                                                       | 312.1    | 30.9                                                   | 360.1    | 35.5                                                        | 413.7    |
| 20mm      | 0.75 inch | 17.3                                                       | 201.4   | 32.7                                                       | 381     | 47.6                                                       | 554.9    | 54.9                                                   | 640.1    | 63                                                          | 735.5    |
| 25mm      | 1 inch    | 18                                                         | 314.7   | 34                                                         | 595.3   | 49.5                                                       | 867      | 57.2                                                   | 1000.2   | 65.7                                                        | 1149.3   |
| 32mm      | 1.25 inch | 29.5                                                       | 515.6   | 55.7                                                       | 975.4   | 81.2                                                       | 1420.5   | 93.6                                                   | 1638.8   | 107.6                                                       | 1882.9   |
| 40mm      | 1.5 inch  | 23                                                         | 805.6   | 43.5                                                       | 1524.1  | 63.4                                                       | 2219.5   | 73.2                                                   | 2560.6   | 84.1                                                        | 2942.1   |
| 50mm      | 2 inch    | 36                                                         | 1258.8  | 68                                                         | 2381.3  | 99.1                                                       | 3467.9   | 114.3                                                  | 4000.9   | 131.3                                                       | 4597     |
| 65mm      | 2.5 inch  | 60.8                                                       | 2127.3  | 115                                                        | 4024.5  | 167.5                                                      | 5860.8   | 193.2                                                  | 6761.5   | 222                                                         | 7768.9   |
| 80mm      | 3 inch    | 92.1                                                       | 3222.5  | 174.2                                                      | 6096.2  | 253.7                                                      | 8877.9   | 292.6                                                  | 10242.2  | 336.2                                                       | 11768.4  |
| 100mm     | 4 inch    | 143.9                                                      | 5035.1  | 272.2                                                      | 9525.3  | 396.3                                                      | 13871.7  | 457.2                                                  | 16003.4  | 525.4                                                       | 18388    |
| 125mm     | 5 inch    | 224.8                                                      | 7867.4  | 425.2                                                      | 14883.3 | 619.3                                                      | 21674.5  | 714.4                                                  | 25005.4  | 820.9                                                       | 28731.3  |
| 150mm     | 6 inch    | 323.7                                                      | 11329.1 | 612.3                                                      | 21432   | 891.8                                                      | 31211.3  | 1028.8                                                 | 36007.7  | 1182.1                                                      | 41373.1  |
| 200mm     | 8 inch    | 575.4                                                      | 20140.5 | 1088.6                                                     | 38101.4 | 1585.3                                                     | 55486.7  | 1829                                                   | 64013.8  | 2101.5                                                      | 73552.2  |
| 250mm     | 10 inch   | 899.1                                                      | 31469.6 | 1701                                                       | 59533.4 | 2477.1                                                     | 86698    | 2857.8                                                 | 100021.5 | 3283.6                                                      | 114925.3 |
| 300mm     | 12 inch   | 1294.7                                                     | 45316.2 | 2449.4                                                     | 85728.1 | 3567                                                       | 124845.2 | 4115.2                                                 | 144031   | 4728.4                                                      | 165492.4 |

| Pipe size |           | T=348.8 dgrF<br>P=116 pisG<br>D=0.2948 lb/ft <sup>3</sup> |          | T=365 dgrF<br>P=145 pisG<br>D=0.3591 lb/ft <sup>3</sup> |          | T=377.6 dgrF<br>P=174 pisG<br>D=0.4165 lb/ft <sup>3</sup> |          | T=390.2 dgrF<br>P=203 pisG<br>D=0.4811 lb/ft <sup>3</sup> |          | T=419 dgrF<br>P=290 pisG<br>D=0.6599 lb/ft <sup>3</sup> |          |
|-----------|-----------|-----------------------------------------------------------|----------|---------------------------------------------------------|----------|-----------------------------------------------------------|----------|-----------------------------------------------------------|----------|---------------------------------------------------------|----------|
|           |           | Max                                                       | Min      | Max                                                     | Min      | Max                                                       | Min      | Max                                                       | Min      | Max                                                     | Min      |
| 15mm      | 0.5 inch  | 39.7                                                      | 463.3    | 48.4                                                    | 564.2    | 56.1                                                      | 654.3    | 64.8                                                      | 755.9    | 88.9                                                    | 1036.8   |
| 20mm      | 0.75 inch | 70.6                                                      | 823.6    | 86                                                      | 1003     | 99.7                                                      | 1163.3   | 115.2                                                     | 1343.7   | 158                                                     | 1843.2   |
| 25mm      | 1 inch    | 73.5                                                      | 1286.8   | 89.6                                                    | 1567.2   | 103.9                                                     | 1817.6   | 120                                                       | 2099.6   | 164.6                                                   | 2879.9   |
| 32mm      | 1.25 inch | 120.5                                                     | 2108.4   | 146.7                                                   | 2567.7   | 170.2                                                     | 2978     | 196.6                                                     | 3440     | 269.6                                                   | 4718.5   |
| 40mm      | 1.5 inch  | 94.1                                                      | 3294.3   | 114.6                                                   | 4012.1   | 132.9                                                     | 4653.1   | 153.6                                                     | 5375     | 210.6                                                   | 7372.7   |
| 50mm      | 2 inch    | 147.1                                                     | 5147.4   | 179.1                                                   | 6268.9   | 207.7                                                     | 7270.4   | 240                                                       | 8398.4   | 329.1                                                   | 11519.8  |
| 65mm      | 2.5 inch  | 248.5                                                     | 8699.1   | 302.7                                                   | 10594.4  | 351.1                                                     | 12287    | 405.5                                                     | 14193.3  | 556.2                                                   | 19468.4  |
| 80mm      | 3 inch    | 376.5                                                     | 13177.3  | 458.5                                                   | 16048.3  | 531.8                                                     | 18612.3  | 614.3                                                     | 21500    | 842.6                                                   | 29490.6  |
| 100mm     | 4 inch    | 588.3                                                     | 20589.6  | 716.4                                                   | 25075.4  | 830.9                                                     | 29081.7  | 959.8                                                     | 33593.7  | 1316.5                                                  | 46079.1  |
| 125mm     | 5 inch    | 919.2                                                     | 32171.2  | 1119.4                                                  | 39180.3  | 1298.3                                                    | 45440.2  | 1499.7                                                    | 52490.2  | 2057.1                                                  | 71998.6  |
| 150mm     | 6 inch    | 1323.6                                                    | 46326.5  | 1612                                                    | 56419.7  | 1869.5                                                    | 65433.9  | 2159.6                                                    | 75585.9  | 2962.2                                                  | 103678   |
| 200mm     | 8 inch    | 2353.1                                                    | 82358.2  | 2865.8                                                  | 100301.6 | 3323.6                                                    | 116326.8 | 3839.3                                                    | 134374.9 | 5266.2                                                  | 184316.4 |
| 250mm     | 10 inch   | 3676.7                                                    | 128684.7 | 4477.8                                                  | 156721.3 | 5193.2                                                    | 181760.7 | 5998.9                                                    | 209960.7 | 8228.4                                                  | 287994.4 |
| 300mm     | 12 inch   | 5294.5                                                    | 185306   | 6448                                                    | 225678.6 | 7478.2                                                    | 261735.4 | 8638.4                                                    | 302343.4 | 11848.9                                                 | 414711.9 |

### saturated steam measuring range——Imperial unit flow rate in lb/hr

The standard model number is usually VFM60MV-2-WC-1-N-N-ML1-M-N-XXX,  
Please reference to the table below for what the model codes stand for.

#### Model codes

|   |                      |          |                                                                              |          |
|---|----------------------|----------|------------------------------------------------------------------------------|----------|
| 1 | General model        | VFM60-MV | Vortex mass flowmeter with integral RTD and pressure sensor                  | Standard |
|   |                      | VFM60-N  | Vortex flowmeter without integral RTD and pressure sensor                    | Option   |
| 2 | Fluid type           | 1        | Liquid                                                                       | Option   |
|   |                      | 2        | Gas                                                                          | Standard |
|   |                      | 3        | Steam                                                                        | Option   |
| 3 | Process connection   | IN       | Insertion (only for DN300 ~ DN1000 or 12 inch ~ 40 inch )                    | Option   |
|   |                      | WC       | Wafer with carbon steel flanges up to 16 barG (232 psiG) (DN15 ~ DN300)      | Standard |
|   |                      | WF       | Wafer with stainless steel flanges up to 16 barG (232 psiG) (DN15 ~ DN300)   | Option   |
|   |                      | D1       | Flanged DIN PN16 up to 16 barG (232 psiG) (DN15 ~ DN300)                     | Option   |
|   |                      | D2       | Flanged DIN PN25 up to 25 barG (362 psiG) (DN15 ~ DN300)                     | Option   |
|   |                      | D3       | Flanged DIN PN40 up to 40 barG (580 psiG) (DN15 ~ DN300)                     | Option   |
|   |                      | D4       | Flanged DIN PN63 up to 63 barG (913 psiG) (DN15 ~ DN300)                     | Option   |
|   |                      | C1       | Flanged ANSI CL150 up to 16 barG (232 psiG) (0.5 inch ~ 12 inch)             | Option   |
|   |                      | C2       | Flanged ANSI CL300 up to 40 barG (580 psiG) (0.5 inch ~ 12 inch)             | Option   |
|   |                      | C3       | Flanged ANSI CL400 up to 63 barG (913 psiG) (0.5 inch ~ 12 inch)             | Option   |
|   |                      | J1       | JIS 10K up to 16 barG (232 psiG) (DN15 ~ DN300)                              | Option   |
|   |                      | J2       | JIS 20K up to 40 barG (580 psiG) (DN15 ~ DN300)                              | Option   |
|   |                      | J3       | JIS 30K up to 63 barG (913 psiG) (DN15 ~ DN300)                              | Option   |
| 4 | Wetted part material | 1        | OCr18Ni9 (304)                                                               | Standard |
|   |                      | 2        | 316                                                                          | Option   |
| 5 | Degreased            | Q        | Other                                                                        | Option   |
|   |                      | N        | Wet part not degreased                                                       | Standard |
|   |                      | D        | Wet part degreased for Oxygen measurement                                    | Option   |
| 6 | Medium Temperature   | N        | T≤150℃                                                                       | Standard |
|   |                      | S        | T≤250℃ (wafer or flanged)                                                    | Option   |
|   |                      | H        | T≤350℃ (wafer or flanged)                                                    | Option   |
| 7 | Transmitter          | ML1      | Integral transmitter, multi-variable, bluetooth, RS485, pulse,               | Standard |
|   |                      | ML2      | Integral transmitter, multi-variable, bluetooth, pulse, 4 wire 4~20mA        | Option   |
|   |                      | ML3      | Integral transmitter, multi-variable, bluetooth, RS485, pulse, 4 wire 4~20mA | Option   |
|   |                      | ML4      | Integral transmitter, multi-variable, bluetooth, pulse, 4 wire HART@4~20mA   | Option   |

## Intelligent Sensor VFM60N/MV Vortex flow meter

|    |             |     |                                                                                           |          |
|----|-------------|-----|-------------------------------------------------------------------------------------------|----------|
| 7  | Transmitter | ML5 | Integral transmitter, multi-variable, pulse, 2 wire 4~20mA                                | Option   |
|    |             | ML6 | Integral transmitter, multi-variable, pulse, 2 wire HART@4~20mA                           | Option   |
|    |             | MR1 | Remote transmitter (dual display), multi-variable, bluetooth, RS485, pulse                | Option   |
|    |             | MR2 | Remote transmitter (dual display), multi-variable, bluetooth, RS485, pulse, 4 wire 4~20mA | Option   |
|    |             | NL1 | Integral transmitter, bluetooth, RS485, pulse,                                            | Option   |
|    |             | NL2 | Integral transmitter, bluetooth, pulse, 4 wire 4~20mA                                     | Option   |
|    |             | NL3 | Integral transmitter, bluetooth, RS485, pulse, 4 wire 4~20mA                              | Option   |
|    |             | NL4 | Integral transmitter, bluetooth, pulse, 4 wire HART@4~20mA                                | Option   |
|    |             | NL6 | Integral transmitter, pulse, 2 wire HART@4~20mA                                           | Option   |
|    |             | NR1 | Remote transmitter (dual display), bluetooth, RS485, pulse,                               | Option   |
|    |             | NR2 | Remote transmitter (single display), bluetooth, pulse, 4 wire 4~20mA                      | Option   |
|    |             | NR3 | Remote transmitter (dual display), bluetooth, RS485, pulse, 4 wire 4~20mA                 | Option   |
|    |             | NR4 | Remote transmitter (single display), bluetooth, pulse, 4 wire HART@4~20mA                 | Option   |
|    |             | NR6 | Remote transmitter (single display), pulse, 2 wire HART@4~20mA                            | Option   |
| 8  | Cable entry | M   | M20x1.5                                                                                   | Standard |
|    |             | N   | NPT 1/2                                                                                   | Option   |
| 9  | Ex-proof    | N   | No Ex-proof                                                                               | Standard |
|    |             | 1   | NEPSI Ex d IIC T3 Gb                                                                      | Option   |
| 10 | Pipe size   | 015 | DN15 or 0.5 inch                                                                          |          |
|    |             | 020 | DN20 or 0.75 inch                                                                         |          |
|    |             | 025 | DN25 or 1 inch                                                                            |          |
|    |             | 032 | DN32 or 1.25 inch                                                                         |          |
|    |             | 040 | DN40 or 1.5 inch                                                                          |          |
|    |             | 050 | DN50 or 2 inch                                                                            |          |
|    |             | 065 | DN65 or 2.5 inch                                                                          |          |
|    |             | 080 | DN80 or 3 inch                                                                            |          |
|    |             | 100 | DN100 or 4 inch                                                                           |          |
|    |             | 125 | DN125 or 5 inch                                                                           |          |
|    |             | 150 | DN150 or 6 inch                                                                           |          |
|    |             | 200 | DN200 or 8 inch                                                                           |          |
|    |             | 250 | DN250 or 10 inch                                                                          |          |
|    |             | 300 | DN300 or 12 inch                                                                          |          |