



PISTON FLOWMETER

SERIES

RPF



Fluidex RPF series is a Rotary Piston Flow Meter. The meter consists of a piston rotating within a chamber of known volume. For each rotation, an amount of the liquid passes through the piston chamber. The RPF is a simple and reliable metering device that provide high levels of accuracy & repeatability. It is used in a wide range of liquids including high viscous lubricants, chemicals, food, fuels and many others

FEATURES AND BENEFITS:

- Available in DN15 to DN50 (½" to 2") line sizes
- Flow range covered from 0.2~330 LPM (0.05~90 US GPM)
- Not sensitive to mounting orientation.
- Measure low & high viscosity liquids.
- Has only one moving part (oscillating piston).
- Availability of explosion proof and Intrinsically Safe models.
- No need for flow conditioning.



STANDARD OPTIONS:

- ▶ Flanged and hygienic process connections
- ▶ Explosion proof
- ▶ Integral and remote LCD totalizer and batch totalizer
- ▶ Flow rate totalizers
- ▶ Scaled pulse
- ▶ 4~20mA & flow alarm outputs
- ▶ Electronic batch controllers and pulse processing modules



GENERAL SPECIFICATIONS

| MODEL PREFIX | RPF015 | RPF020 | RPF025 | RPF040 | RPF050 |
|---------------------|-------------------------------|--|-----------|-------------|-----------|
| Nominal size | DN15 (1/2") | DN20 (3/4") | DN25 (1") | 40 (1 1/2") | DN50 (2") |
| Flow range (LPM) | 0.2~10 | 2~50 | 2~50 | 4~140 | 12~330 |
| Flow range (US GPM) | 0.05~2.7 | 0.5~13 | 0.5~13 | 1.1~37 | 3.2~90 |
| Accuracy @ 3cp | ±1% o.r. (*) | ± 0.5% of reading or ± 0.2% of rate with optional NL correction | | | |
| Repeatability | Typically ± 0.03% | | | | |
| Temperature range | -40°C ~+200°C (-40°F ~+390°F) | | | | |

(*) Within nominal spans of RPF015 (0.2~1.7, 1.7~5 & 5~10 LPM)

MAXIMUM PRESSURE

BAR (PSI) (THREADED METERS)

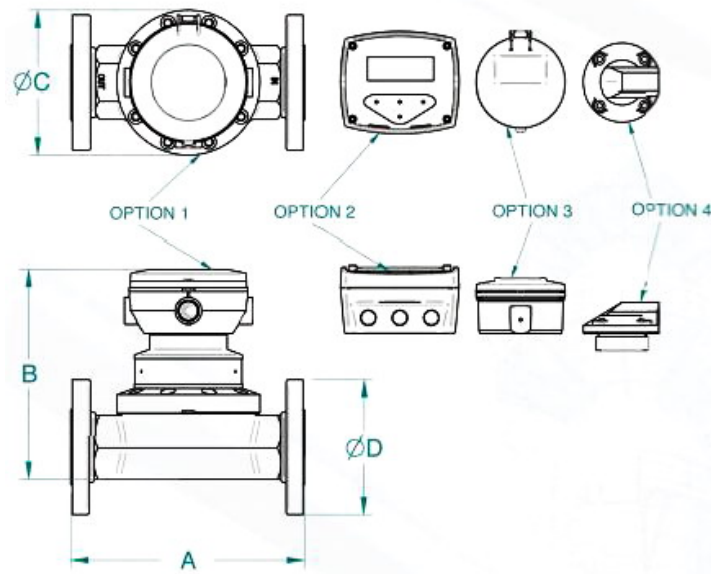
| MODEL PREFIX | RPF015 | RPF020 | RPF025 | RPF040 | RPF050 |
|-------------------------|--|--------|------------|------------|----------|
| Aluminium | 30 (440) | - | 60 (870) | 30 (440) | 20 (300) |
| 316L stainless | 100 (1500) | - | 60 (870) | 60 (870) | 30 (400) |
| High pressure stainless | 350 (5150) | - | 150 (2175) | 150 (2175) | - |
| UPVC (SAP meters) | - | 4 (60) | - | - | - |
| Protection class | IP66/67 (NEMA4X), Optional Exd IIB T4/T6 or I.S. | | | | |
| Recommended filtering | 150 microns (100 mesh) minimum | | | | |

OUTPUT PULSE RESOLUTION

PULSES / LITER (PULSES / US GALLON)

| MODEL PREFIX | RPF015 | RPF020 | RPF025 | RPF040 | RPF050 |
|--------------------------|---|-----------|-----------|----------|-----------|
| Reed switch | 200 (760) | 20 (76) | 20 (76) | 7.3 (28) | 2.5 (9.5) |
| Hall effect | 400 (1520) | 100 (380) | 100 (380) | 44 (167) | 20 (76) |
| Reed switch output | 30Vdc x 200mA max. | | | | |
| Hall effect output (NPN) | 3 wire open collector, 5~24Vdc, 20mA max. | | | | |

DIMENSIONS



| Option Fitted | RPF015 | RPF025 | RPF040 | RPF050 |
|---------------|--------|--------|--------|--------|
| 1 RT/EB | 143 | 179 | 201 | 234 |
| 2 RT Alloy | 134 | 170 | 192 | 225 |
| 3 BT | 147 | 183 | 205 | 238 |
| 4 Cover | 111 | 147 | 169 | 204 |

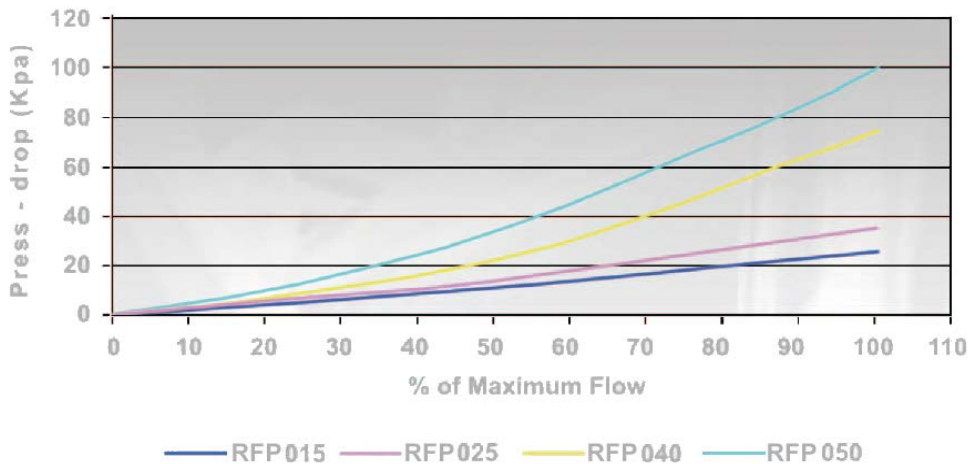
| ØC | 75 | 98 | 140 | 168 |
|----|----|----|-----|-----|
|----|----|----|-----|-----|

| Connections | A | | | | ØC | | | |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | RPF015 | RPF025 | RPF040 | RPF050 | RPF015 | RPF025 | RPF040 | RPF050 |
| ANSI 150 Flange | 132 | 152 | 224 | 253 | 89 | 108 | 127 | 152 |
| ANSI 300 Flange | 145 | 170 | 239 | 268 | 95 | 124 | 156 | 165 |
| DIN 16 Flange | 140 | 165 | 235 | 258 | 95 | 115 | 150 | 165 |
| DIN 40 Flange | 144 | 173 | 253 | 270 | 95 | 115 | 150 | 165 |
| BSP Screwed | 100 | 117 | 175 | 202 | - | - | - | - |
| NPT Screwed | 100 | 117 | 175 | 202 | - | - | - | - |

All dimensions in millimeters ±2mm

PRESSURE DROP

RFP SERIES PRESSURE DROP CURVES @ 1cp VISCOSITY



METER SELECTION MATRIX AND ORDER CODE

| | | | |
|----------------------------|--|------|-------------------------------|
| RPF015 | 1/2" | DN15 | Aluminium and Stainless Steel |
| RPF020P | 3/4" | DN20 | UPVC only |
| RPF025 | 1" | DN25 | Aluminium and Stainless Steel |
| RPF040 | 1 1/2" | DN40 | Aluminium and Stainless Steel |
| RPF050 | 2" | DN50 | Aluminium and Stainless Steel |
| Body material | | | |
| A | Aluminium | | |
| S | 316 Stainless Steel | | |
| H | High Pressure 316 stainless | | |
| P | UPVC (5 bar max, 40°C max) | | |
| Piston material | | | |
| 2 | PEEK - optional in all meters - 150°C (300°F) max. | | |
| 3 | PTFE - standard in all meters - 120°C max. (250°F) | | |
| 9 | Special materials - eg. for 200°C (400°F) | | |
| Partition material | | | |
| 1 | Ceramic (or abrasive liquids) | | |
| 2 | 316 Stainless Steel (standard) | | |
| O-ring materials | | | |
| 1 | Viton (standard) -15~+200°C (-5~+400°F) | | |
| 2 | Ethylene Propylene Rubber -150°C (300°F) max. | | |
| 3 | Teflon encapsulated Viton -150°C (300°F) max. | | |
| 4 | Buna-N (Nitrile) -65~+100°C (-53~+212°F) | | |
| Temperature limits | | | |
| - 1 | 60°C (140°F) | | |
| - 2 | 120°C (250°F) - See note ¹ | | |
| - 3 | 150°C (300°F) - PEEK piston, NPN output | | |
| - 4 | 40°C (100°F) - UPVC meters | | |
| - 5 | 120°C (250°F) - See note ² | | |
| - 6 | 200°C (400°F) - Coil output | | |
| Process connections | | | |
| 1 | BSP (RP) 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 | | |
| Cable entry | | | |
| 0 | 3~6mm cable gland (With B2 & B3 options) | | |
| 1 | M20 x 1.5mm | | |
| 2 | 1/2" NPT | | |

Order Code Example

| | | | | | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|---|---|-----|-------------------------|--------------------------------|
| RPF025 | A | 2 | 2 | 1 | - | 1 | 1 | 1 | REG | | |
| | | | | | | | | | | Integral Options | |
| Glass Reinforced Nylon (GRN) | | | | | | | | | | GR | GRN terminal cover |
| | | | | | | | | | | SS | Stainless terminal cover |
| IEC. Ex & ATEX approved | | | | | | | | | | E1 | Explosion proof ~ Exd |
| 2 NPN open collector phase outputs | | | | | | | | | | QP | Quadrature pulse output |
| IEC. Ex & ATEX approved | | | | | | | | | | Q1 | Exd with Quadrature pulse |
| Accum. & reset totals, pulse output | | | | | | | | | | B2 | BT11 dual totaliser |
| IEC. Ex & ATEX approved | | | | | | | | | | B3 | Intrinsically Safe BT11 (I.S.) |
| flow rate, totals & all outputs | | | | | | | | | | R2 | RT12 Flow Rate Totaliser |
| IEC. Ex & ATEX approved | | | | | | | | | | R3 | Intrinsically safe RT12 (I.S.) |
| Large backlit LCD digits | | | | | | | | | | R4 | RT20 Flow Rate Totaliser |
| Adapts to pulse output board | | | | | | | | | | FI | Loop powered 4~20mA output |
| DC powered 2 stage batch controller | | | | | | | | | | E0 | EB10 batch controller |
| Consult factory | | | | | | | | | | SB | Specific build requirement |





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