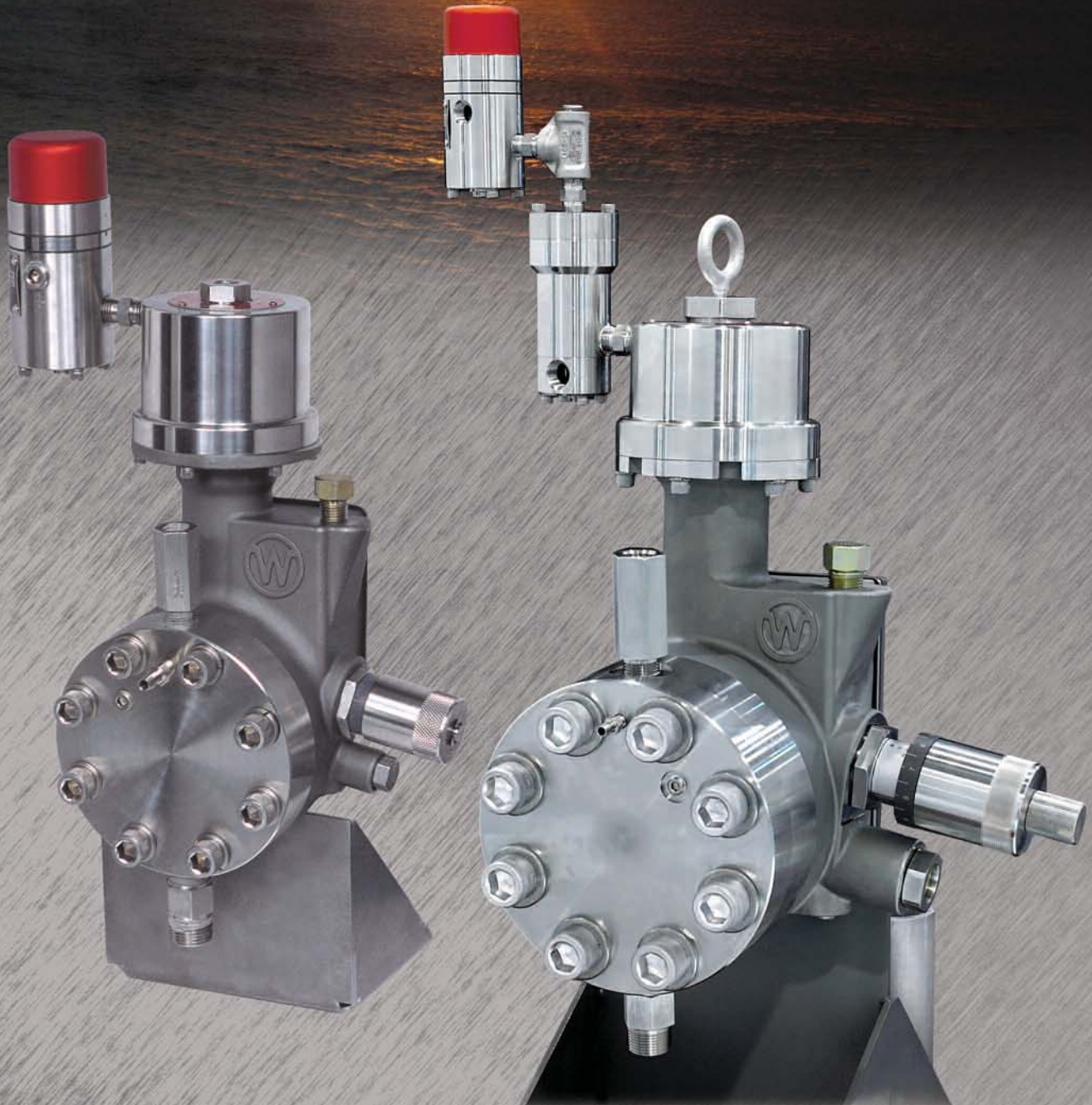


**Hydraulically Actuated Diaphragm Pump**

**WILROY<sup>®</sup>**



**WILLIAMS**  
MILTON ROY

# WILROY® *ATEX Approved*

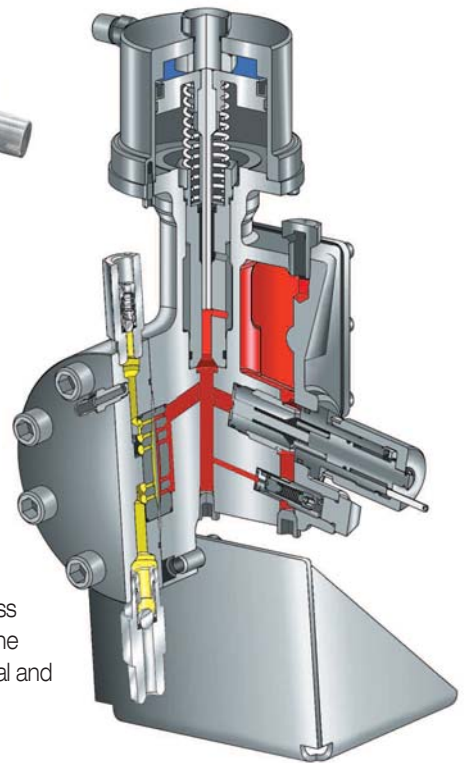
## HYDRAULICALLY ACTUATED DIAPHRAGM PUMP

Williams and Milton Roy have combined technologies to design a pump blending the proven mRoy® hydraulic by-pass diaphragm design with the Williams “V” Series pump. The result is the low volume, high turndown characteristics of a pneumatic drive coupled with the chemical containment and high pressure capabilities of a hydraulically actuated diaphragm.

The WILROY® is a hydraulically actuated diaphragm pump which delivers chemical containment, low maintenance, overpressurization protection with unsurpassed accuracy and repeatability. We invite you to look at how we can meet your chemical injection needs with proven solutions from Williams Milton Roy.



- 316 SS exposure
- Integral relief valve
- Maintenance-free hydraulic system
- Five sizes in two housing — Field reconfigurable
- Compact size for ease of installation
- Centralized design for ease of maintenance & operation
- Gylon® diaphragm for diverse compatibility
- Optimum chemical containment

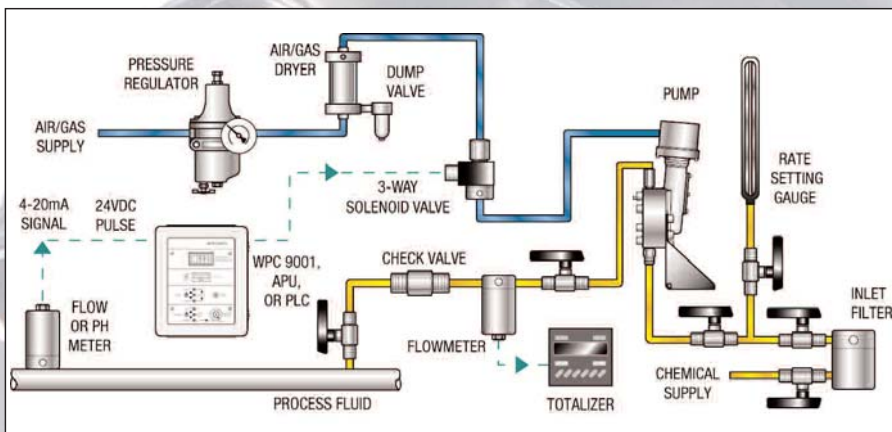
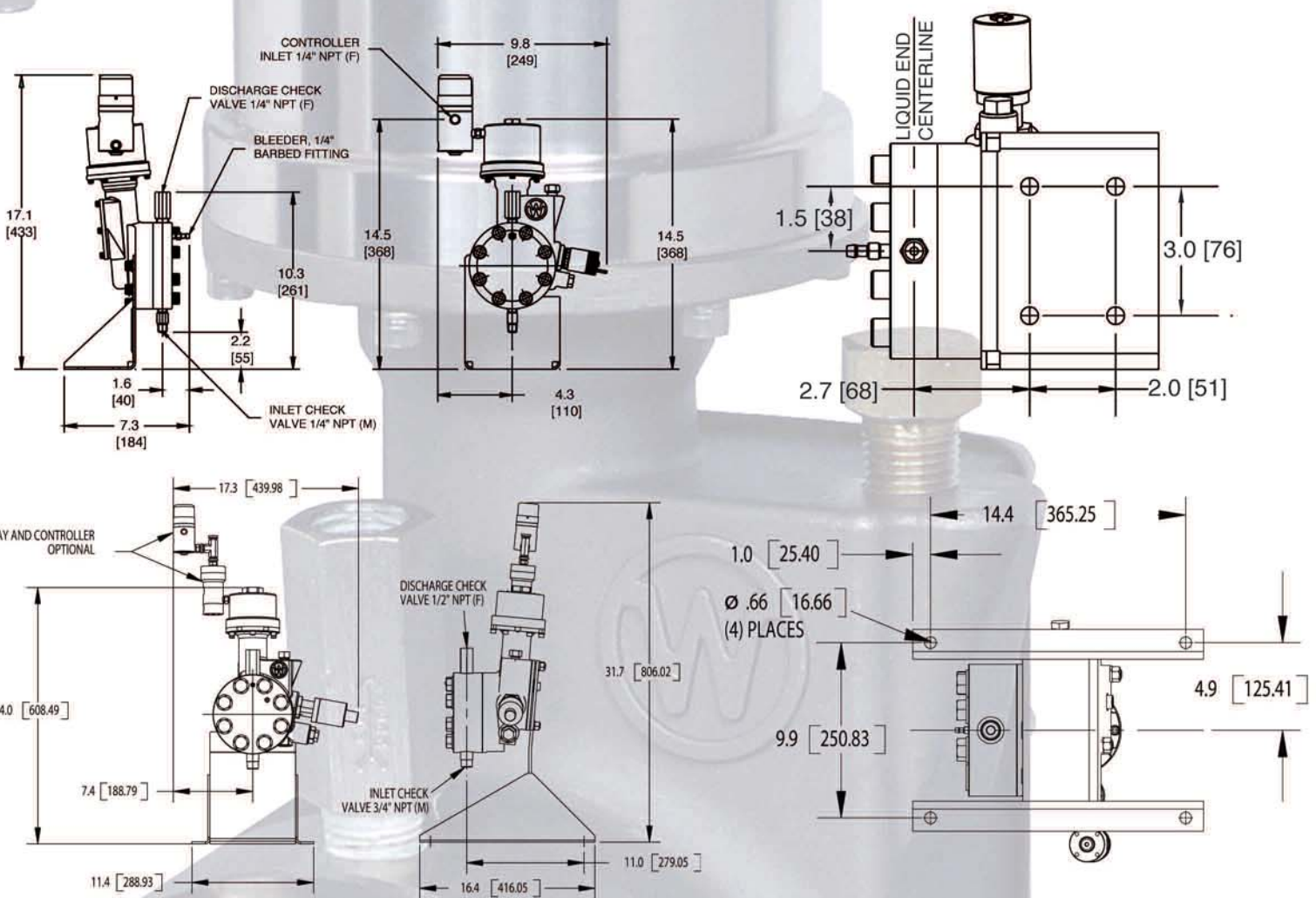


### Operation

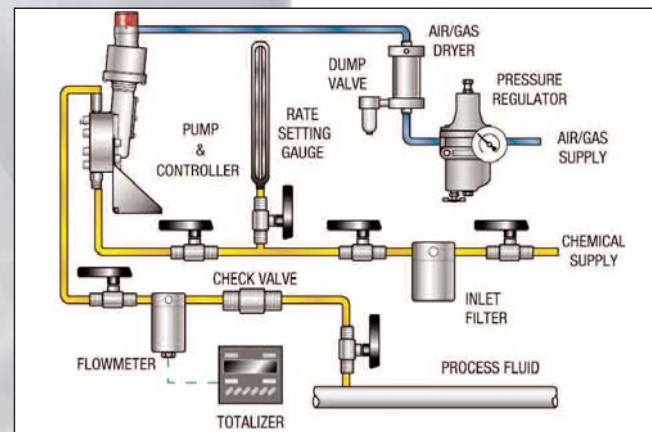
The WILROY Pump is available in four different plunger sizes from 1/4" (WILROY 2M) up to a 1.000" (WILROY 106). Operated by controller or solenoid, the pump is manufactured with a totally sealed hydraulic chamber, removable bore cartridge and integral air bleed mechanism. Along with a serviceable diaphragm, the pump's design assures relatively simple maintenance and operation. The WILROY's amplification ratio allows the pump to inject chemical against process fluids much greater than the air/gas supply pressure. The plunger displaces the hydraulic fluid in the intermediate chamber that in turn displaces the diaphragm. The diaphragm displaces the chemical and injects a precise amount of chemical into the process.

### Optional Diaphragm Rupture Detection

The WILROY® diaphragm liquid ends are, by design, leakproof and durable. In some applications however, added assurance is desired to protect the pump internals from extremely hostile chemicals, or protect the process from potential contamination by hydraulic fluids, or to provide additional containment of the chemicals from being released to the environment.



**FlowTracking Controller Configuration**

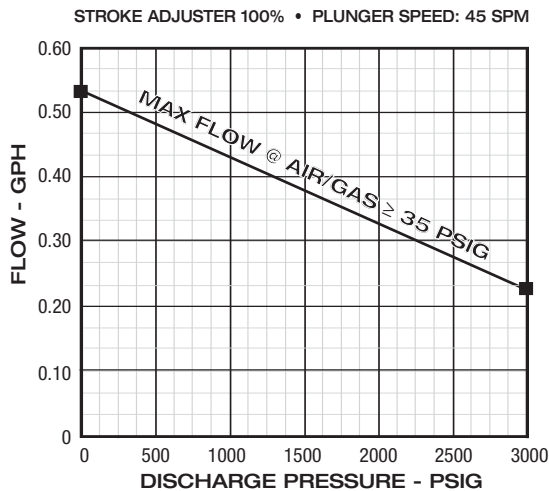


**Standard Pneumatic Controller Configuration**

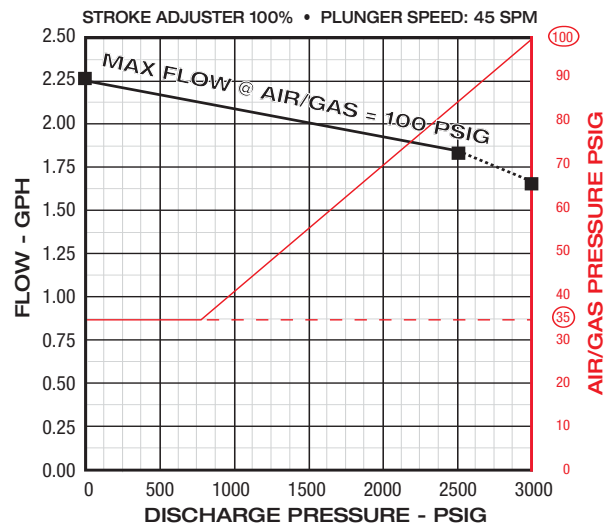
**Wilroy A & B Performance Characteristics**

Model	Maximum Volume @500PSI GPH / LPH	Volume Per Stroke CC	Stroke Length INCH	Strokes Per Minute (Range)	Max Discharge Pressure PSIG / BARG	Max Air Consumption		Weight lbs/Kg
						@100 PSIG	@6.9 BAR	
						SCF Per Day	SCM Per Day	
<b>WILROY® 2M</b>	.54/2.04	.8	1	1-45	3000/207	2068	59	27/12.2
<b>WILROY® 5M</b>	2.25/8.51	3.2	1	1-45	3000/207	2068	59	27/12.2
<b>WILROY® 754</b>	5.0/18.9	7.3	1	1-45	2500/172	3548	101	121.5/55.1
<b>WILROY® 104</b>	8.2/31.0	11.5	1	1-45	1600/207	3548	101	121.5/55.1
<b>WILROY® 106</b>	7.8/29.5	11.0	1	1-45	3000/207	7190	203	137/62.1

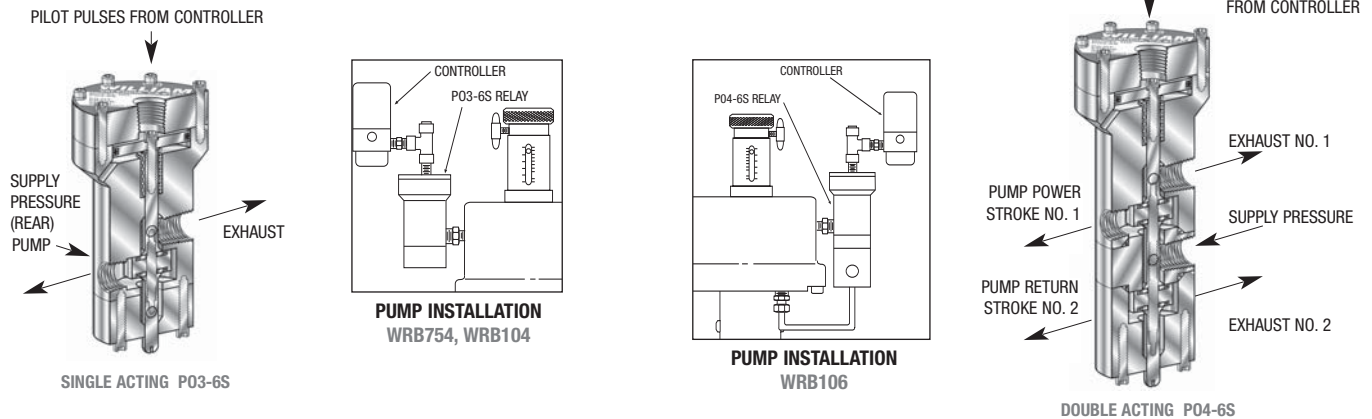
**Flow Performance Graph for Wilroy® 2M**



**Flow Performance Graph for Wilroy® 5M**



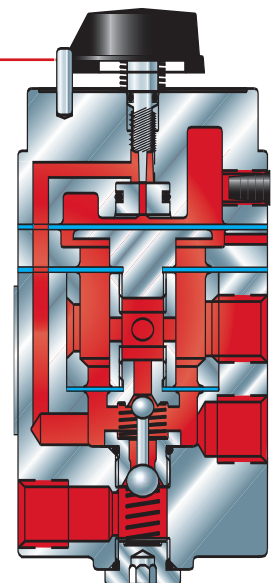
## PNEUMATIC RELAYS



The PNEUMATIC RELAY is a pilot operated valve designed to provide the higher air or gas flow rates necessary for PNEUMATIC DRIVE CYLINDER diameters greater than 3 inches. The PNEUMATIC RELAY is actuated by the pulses produced by the CONTROLLER. A single acting PNEUMATIC RELAY is used with pumps that have return spring [REDACTED] gas pressure is required to return the PISTON-PLUNGER ASSEMBLY on the CRP1000V800. Therefore a double acting PNEUMATIC RELAY is required, illustrated to upper right.

## Oscillamatic® PNEUMATIC CONTROLLERS

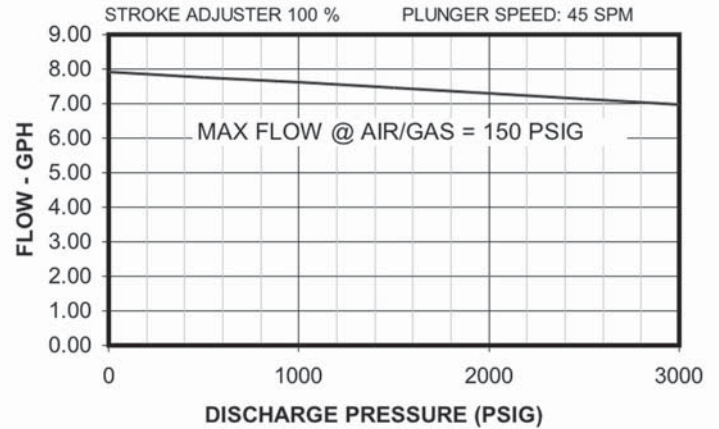
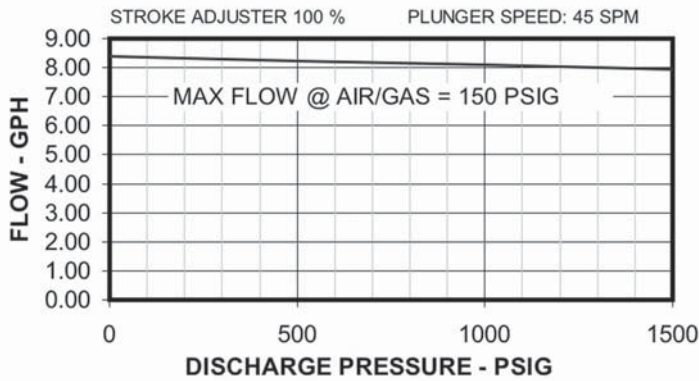
Featuring our latest addition to the Williams line - the MK XIIA controller which combines the corrosion resistance of 316 SS with the diaphragm-style spool design for ease of maintenance. The Williams "Oscillamatic" controllers are unique and precise pneumatic instruments. These units are designed to operate any pneumatic metering pumps or instrument requiring pilot pulses. The controllers accept a constant supply of air or gas pressure which produces pneumatic output pulses. The output signal is manually adjusted by a control rate valve. The controller, installed on the metering pump, provides the most accurate and reliable pneumatic control available today.



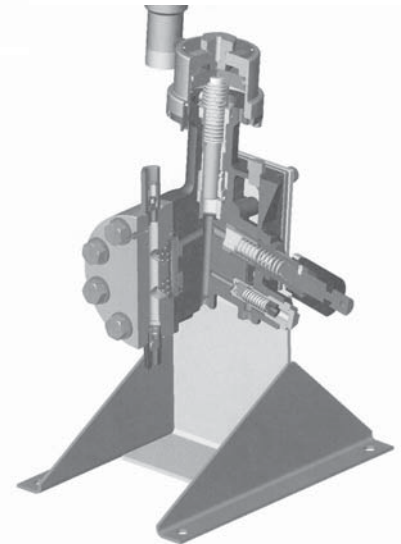
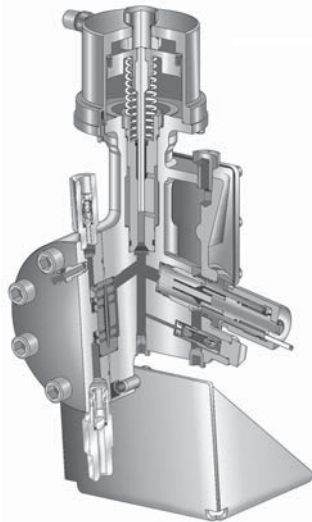
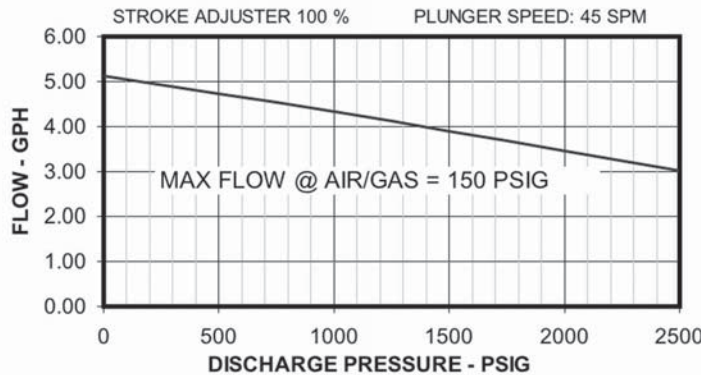
MODELS	SUPPLY RANGE PSI	BAR	BODY MATERIAL	STROKE SPM	ELASTOMERS AVAILABLE	SPOOL STYLE
<b>MK XIIA</b>	30-100	2.0-6.9	316 SS	1-45	NEOPRENE	DIAPHRAGM
<b>MK VII</b>	50-90	3.4-6.2	ANODIZED ALUMINUM	1-45	NEOPRENE VITON®	DIAPHRAGM
<b>MK II</b>	25-65	1.7-4.5	ANODIZED ALUMINUM	1-45	NEOPRENE VITON®	DIAPHRAGM

**Flow Performance Graph for Wilroy® 104**

**Flow Performance Graph for Wilroy® 106**



**Flow Performance Graph for Wilroy® 754**



**PART MODEL NUMBER**

**WRB 1 - 11 104M NN SE BB**

**WRA 1:** 316 SS | **Model**  
**WRB 1:** 316 SS | **Construction**

**Base Selection** | **NN:** None  
**BB:** Base

**NN:** None | **Control Method**  
**11:** MK X11A

**Connections** | **SE:** NPT  
**2M:** 1/4" NPT (F) Discharge, 1/4" NPT (M) Suction  
**5M:** 1/4" NPT (F) Discharge, 1/2" NPT (M) Suction  
**754:** 1/2" NPT (F) Discharge, 3/4" NPT (M) Suction  
**104:** 1/2" NPT (F) Discharge, 3/4" NPT (M) Suction  
**106:** 1/2" NPT (F) Discharge, 3/4" NPT (M) Suction

**2M:** .250" Plunger with 316 SS Micrometer Knob  
**5M:** .500" Plunger with 316 SS Micrometer Knob  
**754:** .750" Plunger, 4" Air Cylinder w/ 316 SS Micrometer  
**104:** 1.000" Plunger, 4" Air Cylinder w/ 316 SS Micrometer  
**106:** 1.000" Plunger, 6" Air Cylinder w/ 316 SS Micrometer

**Plunger Configuration**

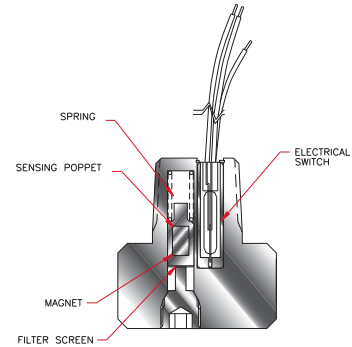
**Diaphragm Rupture Detection** | **NN:** None  
**C5:** Rupture Detection Bracket & Gauge  
**SN:** Rupture Detection Gauge & Nema 4 Switch  
**S7:** Rupture Detection Gauge & Nema 7 Switch

# WFS6704 MICRO FLOW SWITCH

For Detecting Increases & Decreases in Flow Rates



- Explosion Proof  
Class I, Division 1&2,  
Groups A, B, C, D  
Class II, Division 1&2,  
Groups E, F, G
- Fully Field Adjustable
- Operates in Any Orientation
- Miniature Compact Size
- Operating Temperature  
-40° F to +300° F (-40° C to +150° C)
- Operating Pressure 3000 PSIG (207 bar)
- Corrosion Resistant 316 Stainless Steel
- Shock & Vibration Resistant
- 1/4" NPT Connections



DRUM GAUGES Liquid Level/Injection Rate Gauge	
MODELS	MATERIALS
C779WS	Carbon Steel
C779WS-V	Carbon Steel - Vented
C779WS-SS	Stainless Steel
C779WS-SS-V	Stainless Steel - Vented
30216-CS-V-GPD-S	Carbon Steel
30216-S6-V-GPD-S	Stainless Steel

PCV125 AL Pressure Regulator		
SENSITIVITY	FLOW RATES	MAX. PRESSURE
0.1 PSI	20SCFM	250 PSI
0.689kPa	.566m3/min	1724 kPa



AIR OR GAS DRYER-FILTERS Complete with Manual Drain Valve		
MODELS	FLOW RATES	MAX. PRESSURE
J-150	40SCFM	150 PSI
J-500	40SCFM	500 PSI



LIQUID CHEMICAL FILTERS 316 Stainless Steel		
MODELS	CONNECTION FILTER ELEMENT	OPTIONAL FILTER ELEMENT
LCF-10-25	1/4" NPT 25 micron, Std	1, 2, 8 microns or 100 mesh stainless steel screen
LCF-15-25	1/2" NPT 25 micron, Std	

AUTOMATIC DUMP VALVES Used with the Air or Gas Dryer-Filters		
MODELS	BOWL	MAX. PRESSURE
ADV-150-A	Plastic	150 PSI
ADV-250-A	Steel	250 PSI



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