

## XT and XW Models

mROY® series model XT and XW metering pumps are controlled-volume, hydraulically-actuated diaphragm pumps that are designed for consistent chemical delivery. Its compact design contains a plunger that reciprocates at a fixed stroke, displacing a fixed volume of hydraulic fluid and thereby actuating a flexible, chemically inert PTFE diaphragm to create the pumping action. Designed to meet global industry standards, models XT and XW provide accurate dosing of a broad spectrum of fluids. Like all mROY® metering pumps, models XT and XW are built to run continually all year long leading to decades of consistent performance.

### Applications

Injection of chemicals such as biocides, polymers, scale and corrosion inhibitors, salt and wax inhibitors, process additives and many more for the following areas of application:

- **Chemical and petrochemical processing**
- **Boilers**
- **Oil and gas production**
- **Food**
- **Power generation**

Technical	XT	XW
Max Flow	2.2 gph (8.3 l/hr)	9.2 gph (34.8 l/hr)
Max Pressure	3000 PSI (207 bar)	3000 PSI (207 bar)
Stroke Length	0.75 inches (19 mm)	1.5 inches (38.1 mm)

Temperature Range		
	Ambient	Liquid
Standard	20°F (-6°C) to 120°F (49°C)	-20°F (-29°C) to 200°F (93°C)
Low	-40°F (-40°C) to 120°F (49°C)	-45°F (-43°C) to 200°F (93°C)
High	20°F (-6°C) to 120°F (49°C)	50°F (10°C) to 300°F (149°C)



### Features and Benefits

- Hydraulically balanced PTFE diaphragm, designed for 96,000 hours operating life, does not use seals and eliminates plunger packing maintenance.
- Turndown ratios up to 10:1 with constant speed motor
- Steady state accuracy  $\pm 1.0\%$  and Repetitive accuracy  $\pm 3.0\%$
- Liquid end bleed system makes it easier to commission a new or a newly maintained pump.
- Worm and pinion drive operating in an oil bath lubrication produces a smooth mechanical motion that eliminates wear and tear of mechanical lost motion designs and assures long gear and bearing life.
- Dust-tight cast iron housing provides a rugged enclosure for operation in the harshest plant and field environments.
- Micrometer capacity adjustment enables accurate output flow control.
- Internal hydraulic pressure relief valve automatically protects the pump's hydraulic system from over pressure conditions.
- High-performance, adjustable, cartridge-type check valves provide positive, repeatable sealing on every pump stroke.
- The pump meets standards for API 675.

### Capacity/Pressure Tables

0 to 9.2 GPH (34.8 L/H) - 3000 PSI (207 BAR) maximum

	Plunger Diameter	Gear Ratio Code	Strokes Per Minute		Metallic Liquid Ends												
					GPH at 2000 psi		GPH at 2500 psi		GPH at 3000 psi		L/hr at 138 BAR		L/hr at 172 BAR		L/hr at 207 BAR		
					60 hz	50 hz	60 hz	50 hz	60 hz	50 hz	60 hz	50 hz	60 hz	50 hz	60 hz	50 hz	
<b>mRoy XT</b>	11/32" 9 mm	77	23	19	0.27	0.23	0.26	0.21	0.24	0.20	1.04	0.87	0.97	0.81	0.90	0.75	Requires 0.37 kW (1/2 HP) motor
		48	37	30	0.44	0.37	0.41	0.34	0.38	0.32	1.67	1.39	1.55	1.29	1.44	1.20	
		24	73	60	0.87	0.73	0.80	0.67	0.74	0.62	3.30	2.75	3.00	2.50	2.80	2.33	
		15	117	96	1.37	1.14	1.27	1.06	1.19	0.99	5.20	4.33	4.80	4.00	4.50	3.75	
		10	185	152	2.2	1.8	2.1	1.7	1.9	1.6	8.3	6.9	7.7	6.4	7.2	6.0	
<b>mRoy XW</b>	1/2" 13 mm	38	48	40	2.8	2.3	2.6	2.2	2.5	2.1	10.6	8.8	10.1	8.4	9.3	7.8	Requires 0.75 kW (1 HP) motor
		25	72	60	4.3	3.6	4.0	3.3	3.8	3.1	16.2	13.5	15.1	12.6	14.2	11.9	
		19	96	80	5.8	4.8	5.4	4.5	5.0	4.2	21.9	18.3	20.4	17.0	18.9	15.8	Requires 1.1 kW (1.5 HP) motor
		12	144	120	9.2	7.7	8.6	7.2	8.0	6.7	34.8	29.0	32.5	27.1	30.3	25.2	

Actuators and rupture detection require capacity derating per the table on page 3.

## Capacity Adjustment Table

mRoy pump capacity must be derated when any of the following options are selected:

- **Electronic Capacity Control**
- **Diaphragm Rupture Detection System**

Plunger Diameter	11/32" (9mm)	1/2" (13mm)
Pump Model	<b>XT</b>	<b>XW</b>
Electronic Capacity Control	1.00	1.00
Diaphragm Rupture Detection System	0.95	0.95

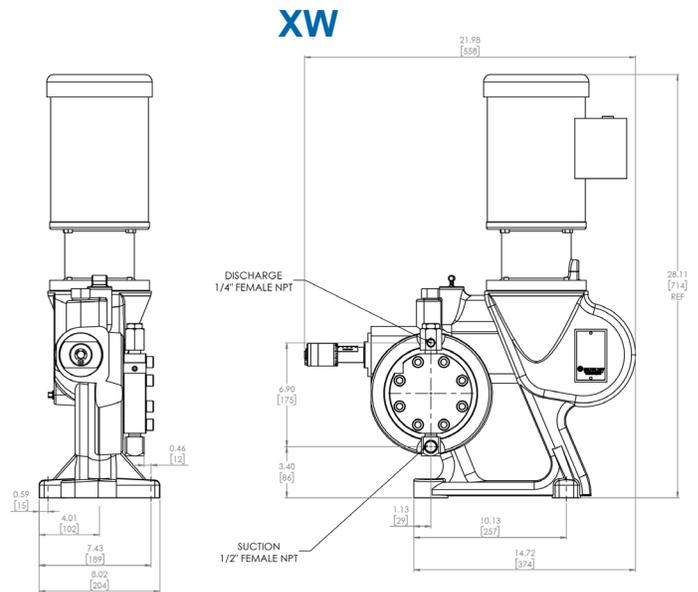
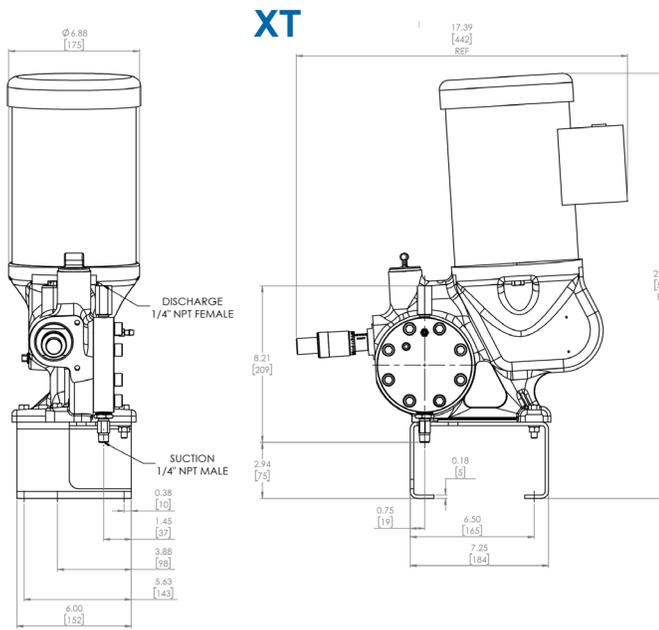
## Piping Connection Sizes

Model	Suction	Discharge
XT	1/4" NPT Male	1/4" NPT Female
XW	1/2" NPT Female	1/4" NPT Female

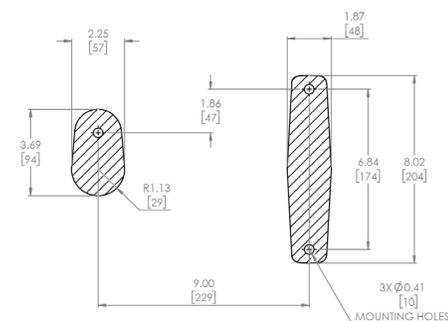
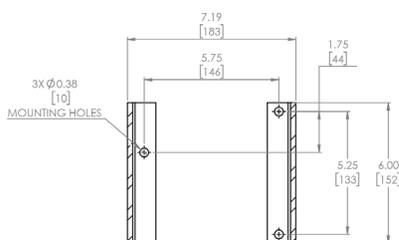
## Materials of Construction

Liquid End Material	Diaphragm	Head	Valve Body	Seats	Ball	Seals	Contour Plate	Check Valve Springs
316SS	PTFE	316SS	316SS	316SS	316SS	Viton & Buna N	316SS	316SS

**Dimensions** Dimensions are provided for pump envelope estimates with basic options. Certified prints are available.

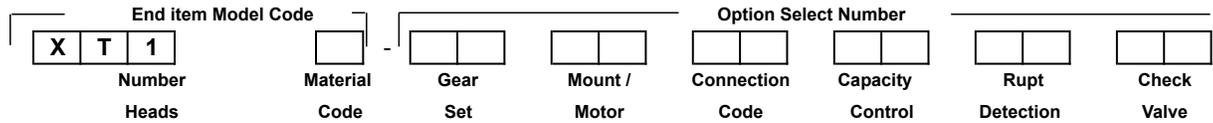


**Bolt Hole Dimensions** Bolt holes accommodates 5/16" (8mm) diameter bolts.



## Model Selection Guide for XT

### MODEL CODE



### LIQUID END MATERIAL

Code	Description
1	316 SS (Standard)

### GEAR SET

Code	Description	1725 rpm	1425 rpm	1140 rpm
77	77:1 Gear Ratio	23 spm	19 spm	14.5 spm
48	48:1 Gear Ratio	37 spm	30 spm	24 spm
24	24:1 Gear Ratio	73 spm	60 spm	47 spm
15	15:1 Gear Ratio	117 spm	96 spm	76 spm
10	9.5:1 Gear Ratio	185 spm	152 spm	120 spm

### MOTOR MOUNTS

Motor supplied by Milton Roy

Code	Description
SR	Close Coupled Flange, NEMA 56C (48 Frame) (Standard)
SS	Close Coupled Flange, IEC Frame 71, B5 Flange
FR	API Flange Mount, NEMA 56C
F4	API Flange Mount, NEMA 143TC
FS	API Flange Mount, IEC Frame 71, B5
MD	API Flange Mount IEC Frame 80, B5 Flange
F9	API Flange Mount, IEC Frame 90, B5 Flange

Motor supplied by Others

Code	Description
1X	Close Coupled Flange, NEMA 56C
2X	Close Coupled Flange, IEC Frame 71, B5 Flange
3X	API Flange Mount, NEMA 56C
4X	API Flange Mount, NEMA 143TC
5X	API Flange Mount, IEC Frame 71, B5 Flange
6X	API Flange Mount, IEC Frame 80, B5 Flange
7X	API Flange Mount, IEC Frame 90, B5 Flange

### CONNECTIONS

Code	Description
NN	Standard NPT 1/4" NPT Suction, 1/4" Discharge
AA	ANSI 150# RF 1/2" Socket Welded
BB	ANSI 300# RF 1/2" Socket Welded
EE	ANSI 1500# RF 1/2" Socket Welded
11	ANSI 150# RF 1/2" Threaded
33	ANSI 300# RF 1/2" Threaded
66	ANSI 600# RF 1/2" Threaded

### CAPACITY CONTROL

Code	Description
M1	Manual Micrometer Knob, 316 SS
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F

### RUPTURE DETECTION

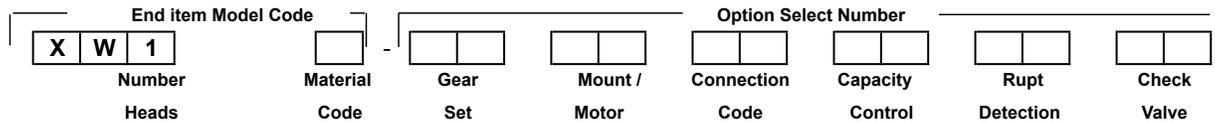
Code	Description
NN	None
C5	Rupture Detection with Base & Gauge
SN	Rupt.Detect w/ Base,Gauge,& NEMA 4 Switch
S7	Rupt.Detect.w/ Base, Gauge, & Ex. Prf Switch

### CHECK VALVE

Code	Description
NN	Single Ball Checks (Standard)
22	Double Ball Checks

## Model Selection Guide for XW

### MODEL CODE



### LIQUID END MATERIAL

Code	Description
1	316 SS (Standard)

### GEAR SET

Code	Description	1725 rpm	1425 rpm	1140 rpm
38	38:1 Gear Ratio	47 spm	39 spm	31 spm
25	25:1 Gear Ratio	72 spm	60 spm	48 spm
19	19:1 Gear Ratio	95 spm	79 spm	62 spm
12	12:1 Gear Ratio	144 spm	120 spm	95 spm

### MOTOR MOUNTS

Motor supplied by Milton Roy

Code	Description
FR	API Flange Mount, NEMA 56C (Standard)
F4	API Flange Mount, NEMA 143TC/145TC
F8	API Flange Mount, IEC Frame 80, B5 Flange
F9	API Flange Mount, IEC Frame 90, B5 Flange

Motor supplied by Others

Code	Description
3X	API Flange Mount, NEMA 56C
4X	API Flange Mount NEMA 143TC / 145 TC
6X	API Flange Mount, IEC Frame 80, B5 Flange
7X	API Flange Mount, IEC Frame 90, B5 Flange

### CONNECTIONS

Code	Description
NN	Standard NPT 1/2" NPT Suction, 1/4" NPT Discharge
AA	ANSI 150# RF 1/2" Socket Welded
BB	ANSI 300# RF 1/2" Socket Welded
EE	ANSI 1500# RF 1/2" Socket Welded
11	ANSI 150# RF 1/2" Threaded
33	ANSI 300# RF 1/2" Threaded
66	ANSI 600# RF 1/2" Threaded

### CAPACITY CONTROL

Code	Description
M1	Manual Micrometer Knob, 316 SS
AW	ACC NEMA 4 (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F
AE	ACC Ex-Proof (4-20 mA input) 24VDC; 85V to 260V 1 phase 50/60Hz, -40°C/°F

### RUPTURE DETECTION

Code	Description
NN	None
C5	Rupture Detection with Base & Gauge
SN	Rupt.Detect w/ Base,Gauge,& NEMA 4 Switch
S7	Rupt.Detect.w/ Base, Gauge, & Ex. Prf Switch

### CHECK VALVE

Code	Description
NN	Double Ball Checks (Standard)

## About Ingersoll Rand Inc.

Ingersoll Rand Inc. (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity and efficiency. For more information, visit [www.IRCO.com](http://www.IRCO.com).



To learn more about the mRoy® Series metering pumps, contact your local representative or visit [miltonroy.com](http://miltonroy.com)