

**MTR-500  
MTR-600  
Regulator**

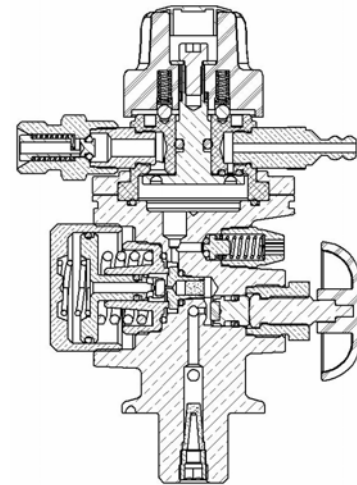
**Brass Cylinder  
Valve Regulator  
0.5 - 25 lpm**



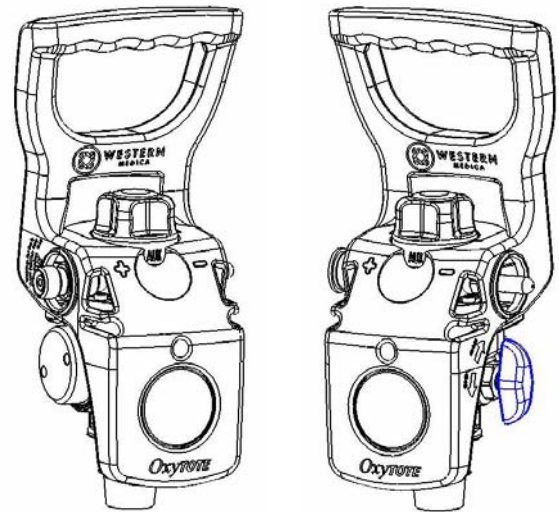
G A S C O N T R O L T E C H N O L O G Y

**MATERIALS OF CONSTRUCTION**

DESCRIPTION	WET	MATERIAL
Body	Y	UNS C37700 Brass
Internal Brass Components	Y	UNS C36000 or JISH3520 C3604 Brass
Filters	Y	Sintered Porous Bronze
Regulator Seat	Y	PTFE
O-rings	Y	EPDM – 70 Durometer
	Y	Viton - 75 & 90 Durometer
Delivery Spring	N	Zinc Plated Music Wire
Secondary Delivery Spring	Y	UNS 17700 SST
Bonnet	Y	Aluminum 6262-T6511, Hardcoat Anodized
Detent Ball & Dowels	N	UNS S31600 SST
Relief Valve and Burst Disc		
Cap, Poppet	Y	UNS C36000 Brass
Burst Disk	Y	Nickel Alloy No. 201
Burst Disc Gasket	Y	Zytel 101
Relief Valve Spring	N	Zinc Plated Music Wire
Relief Valve O-ring	Y	EPDM - 80 Durometer
Filler Valve Assembly		
Poppet, Insert	Y	UNS C36000 Brass
O-ring (s)	Y	Viton (GLT) – 75 Durometer
Spring	Y	UNS S30200 or S30400 SST
High Pressure Shut-Off Valve		
Stem, Piston, Packing	Y	UNS C36000 Brass
O-ring	Y	Viton – 75 Durometer
Back-up Ring	N	PTFE – Teflon
Seat	Y	PCTFE
Other		
Inlet o-ring	Y	PTFE
Lubrication	Y	Krytox GPL-206, 240AC, GPL-205
Shroud / Knobs	N	Polyethylene, Nylon 6/6 or Polycarbonate
Shroud & Retaining Screws	N	Zinc Plated Steel
Bonnet Screws	N	Nickel Plated Steel
Auxiliary Valve		
Bushing and Plunger	Y	UNS C36000 Brass
Body	Y	Nickel Plated UNS C36000 Brass
Spring	Y	UNS S30200 or S30400 SST
O-ring	Y	EPDM – 70 Durometer



MTR-6X0 Unit shown with Auxiliary Valve  
Not all internal components shown



**Physical Specifications**

- Dimensions (unit w/ Shroud):  
Height from Cylinder Neck: 7 ¾", Outer Diameter: 4 ½"
- Filler Valve Filtration: 90 - 250 micron
- Cylinder and Regulator Inlet Filtration: 40 - 70 micron
- Inlet Threads: ¾ - 16 UNF or ½ - 14 NGT
- Fill Port Thread: CGA 540
- Outlet: ¼" OD Hose Barb
- Demand Outlet: CGA DISS 1240
- Regulator & Shroud Assembly Shipping Weight: 2 lbs 10 oz
- 1½" Inlet Pressure Gauge - Range: 0 -3000 psig, UL listed

**Performance Specifications**

- Maximum Inlet Pressure: 3000 psig  
Operating Pressure Range: 300 - 2400 psig
- Rated Delivery Pressure: 48-52 psig at 4 LPM O<sub>2</sub> at 1350 psig inlet
- Storage Temperature Range: -40°F to 140°F
- Operating Temperature Range: 0°F to 120°F
- Overall External Leak Rate: < 3 × 10<sup>-3</sup> cc/sec Oxygen
- Safety Relief Pressure: 80 - 120 psig
- Burst Disk Rupture Pressure: 3025 - 3360 psig
- Minimum Knob Operating Torque: 48 in.ozs.
- OxyTOTE (MTR-XX0) met Oxygen Ignition Resistance per and EN 738-3 and modified Phase 2 testing per ASTM G 175
- The MTS-50X is MR Conditional for use outside of the bore of an MR machine under the following conditions: Static magnetic field of 3.0 Tesla or less and a spatial gradient field of 3.3 Tesla/meter or less.
- The MTS-603 is MR Conditional for use outside of the bore of an MR machine under the following conditions: Static magnetic field of 3.0 Tesla or less and a spatial gradient field of 720 gauss/cm or less.

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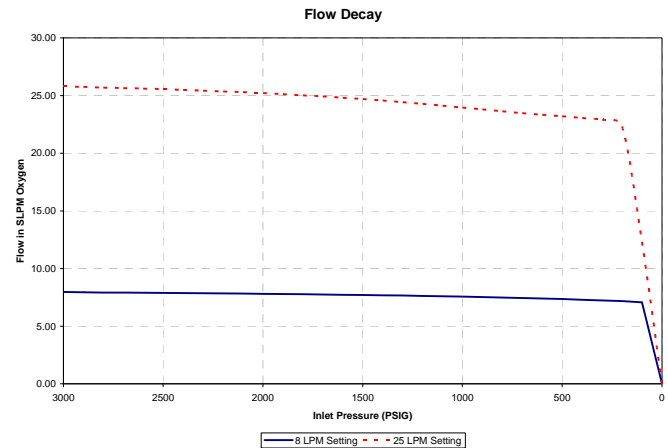
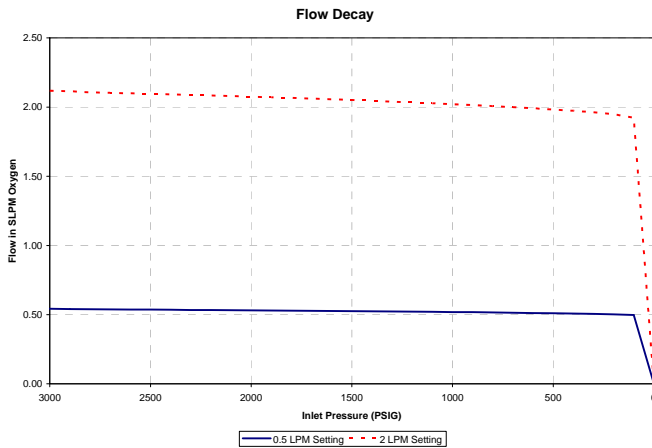
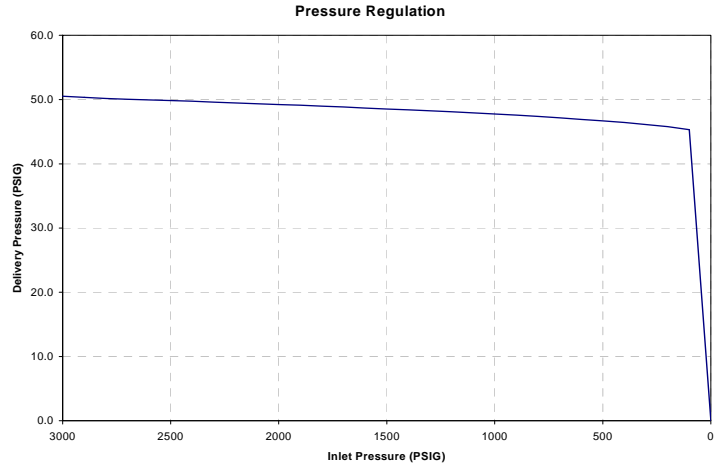
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**Performance Specifications**

- Pressure Regulation Coefficient (i): 0.18
  - Irregularity Coefficient (i): -0.10
- Flow Decay Values: (2400 – 300 psig inlet)  
(change in flow/100 psig change in inlet pressure)
  - 1/2 lpm setting - 0.001 lpm/100 psig
  - 2 lpm setting - 0.005 lpm/100 psig
  - 8 lpm setting - 0.02 lpm/100 psig
  - 25 lpm setting - 0.09 lpm/100 psig
- Flow Coefficients,  $C_v$ :
  - Filler Valve: 0.030
  - Regulator: 0.008
  - Relief Valve: 0.06
- Auxiliary Valve Flow Capacity:
  - 100 SLPM O<sub>2</sub> min at > 900 psig inlet
  - 60 SLPM O<sub>2</sub> min at > 600 psig inlet



**Unit Flow Accuracy**  
All values at 1350 PSIG Inlet

Indicated Flow (lpm O <sub>2</sub> )	0.5	1	1.5	2	3	4	5	6	8	10	15	25
Maximum Flow (lpm O <sub>2</sub> )	0.60	1.2	1.8	2.2	3.3	4.4	5.5	6.6	8.8	11.0	17.25	28.75
Minimum Flow (lpm O <sub>2</sub> )	0.40	0.8	1.2	1.8	2.7	3.6	4.5	5.4	7.2	9.0	12.75	21.25
Accuracy (% of Reading)	±20%	±20%	±20%	±10%	±10%	±10%	±10%	±10%	±10%	±10%	±15%	±15%

NOTE: Not all data applies to all models. 500 Series models do not have an auxiliary valve.

**Western reserves the right to make design changes without notice**

For additional technical information or assistance in ordering, please contact Western Customer Service at 1.800.783.7890 or 440.871.2160