Taylor Valve Technology®

MC SERIES
Choke Valves

TRUSTED SINCE 1958 WORLDWIDE

EMPLOYEE OWNED Since 2020

Precise.

Quality.

Reliable.

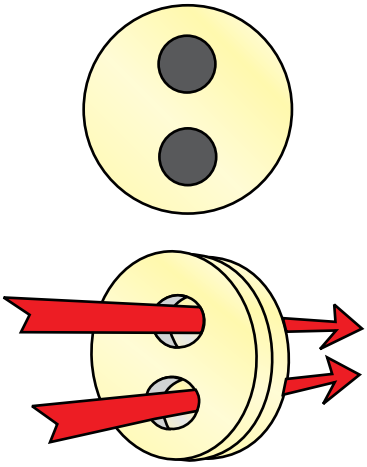
SINCE 1958

Taylor Valve Technology®
www.taylorvalve.com

MOV Valve Principle of Operation

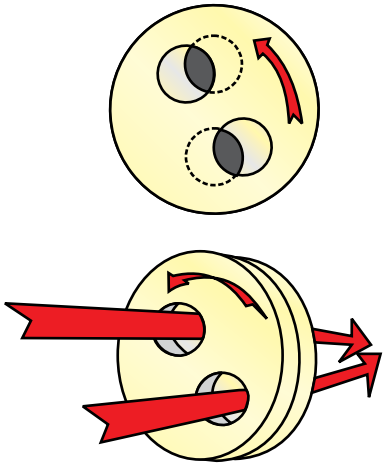
Taylor Valve Technology Multi-Orifice Valve Design Principle Provides Precision Control.
The two adjacent internal discs each contain two precision orifices.

Full Open



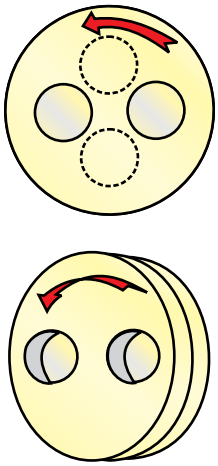
When the holes on both discs are aligned the valve is in the Full Open Position.

Throttling



When the front disc is rotated, changing the alignment and relationship to the fixed back disc, the flow area and orifice size are affected, the result is either increase or decrease in flow.

Full Closed



When the front disc is rotated a full 90° (one quarter turn), the valve is in the Full Closed Position.

The discs are lapped to within two light bands of flatness (+/- .00002”) to achieve positive shut off and maintain precise control. The fixed back disc is held perpendicular to the flow. The front disc floats against the back disc and seeks a mating surface promoting a positive seal. The differential pressure across the upstream disc and the downsteam disc stabilizes the control surfaces. Vibration, noise or fatigues normally associated with loose or unsupported parts are eliminated. No control surfaces are introduced into the orifice, providing a clear center line for the flow. The valves are rated for shut-off at ANSI Class III or IV depending on the style of valve and trim used. The orifices of the standard disc expose a small control surface profile to the fluid steam reducing wear. The multi-orifice design produces near linear flow characteristics. The low torque and quarter-turn design of Taylor Valve Technology’s Multi-orifice valves allows for a variety of actuation options: manual, pneumatic, hydraulic, or electric.

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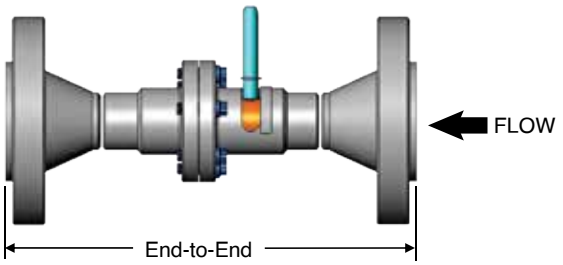
MC Specifications and Cutaway View

1” BODY STANDARD DIMENSIONS AND WEIGHTS				
CONNECTIONS		DIM. END-to-END IN. (MM.) +/- .10	WEIGHT	
INLET	OUTLET		LB.	KG.
1” FNPT	1” FNPT	8.92	22	9.99
1” BUTT WELD	1” BUTT WELD	8.92	22	9.99
1” 150 RFF	1” 150 RFF	13.48	28	12.71
1” 150 RTJ	1” 150 RTJ	13.85	28	12.71
1” 300 RFF	1” 300 RFF	13.98	30	13.62
1” 300 RTJ	1” 300 RTJ	14.35	30	13.62
1” 600 RFF	1” 600 RFF	14.48	30	13.62
1” 600 RTJ	1” 600 RTJ	14.48	30	13.62
1” 900 RFF	1” 900 RFF	15.35	40	18.16
1” 900 RTJ	1” 900 RTJ	15.35	40	18.16
1” 1500 RFF	1” 1500 RFF	15.35	40	18.16
1” 1500 RTJ	1” 1500 RTJ	15.35	40	18.16

MC Inline Choke

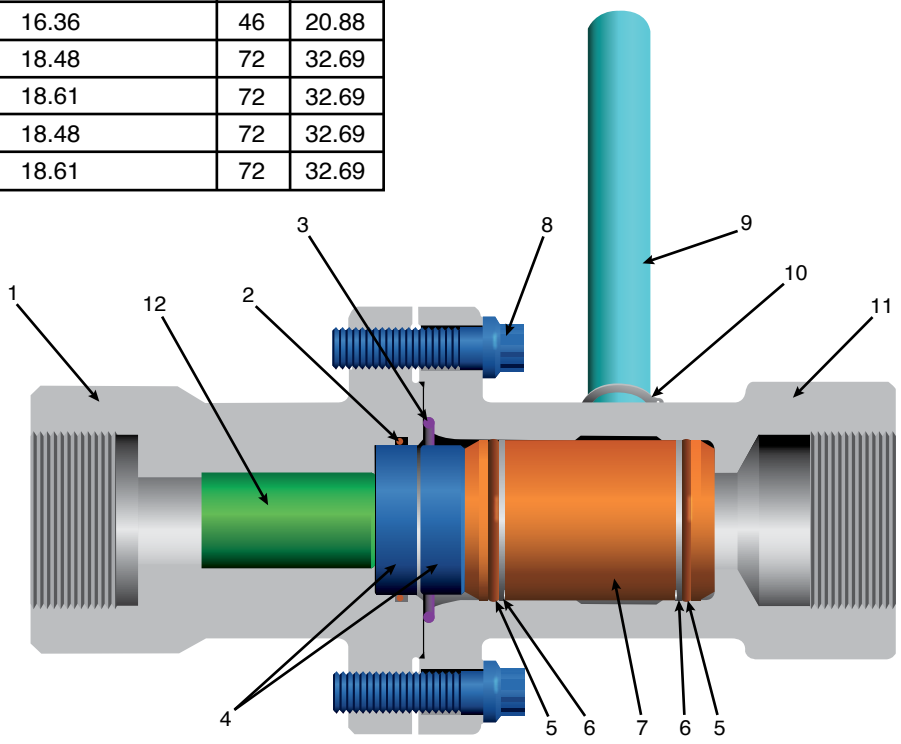
1” & 2” Configuration
316 SS
¼ Turn Actuated
Body Rating = 3,600 PSI
CV Range = 0.70 - 16.57



2” BODY STANDARD DIMENSIONS AND WEIGHTS				
CONNECTIONS		DIM. END-to-END IN. (MM.) +/- .10	WEIGHT	
INLET	OUTLET		LB.	KG.
2” FNPT	2” FNPT	10.04	23	10.40
2” BUTT WELD	2” BUTT WELD	9.80	22	9.99
2” 150 RFF	2” 150 RFF	14.98	34	15.44
2” 150 RTJ	2” 150 RTJ	15.35	34	15.44
2” 300 RFF	2” 300 RFF	15.48	40	18.16
2” 300 RTJ	2” 300 RTJ	15.98	40	18.16
2” 600 RFF	2” 600 RFF	16.23	46	20.88
2” 600 RTJ	2” 600 RTJ	16.36	46	20.88
2” 900 RFF	2” 900 RFF	18.48	72	32.69
2” 900 RTJ	2” 900 RTJ	18.61	72	32.69
2” 1500 RFF	2” 1500 RFF	18.48	72	32.69
2” 1500 RTJ	2” 1500 RTJ	18.61	72	32.69

No.	Description	Qty
1	Hub	1
2	O Ring	1
3	O Ring	1
4	Disc	2
5	O Ring	2
6	Backup Ring	2
7	Rotator	1
8	Cap Screw	6
9	Handle	1
10	Retaining Ring	1
11	Body	1
12*	Flow Tube	1
13**	Dowel Pins	5
14**	Drive Screw	2
15**	Index Label	1
16**	Data Plate	1
17**	Screw	2

*Item optional
** Items not shown in section view



NOTE: Taylor Valve reserves the right to change product designs and specifications without notice.

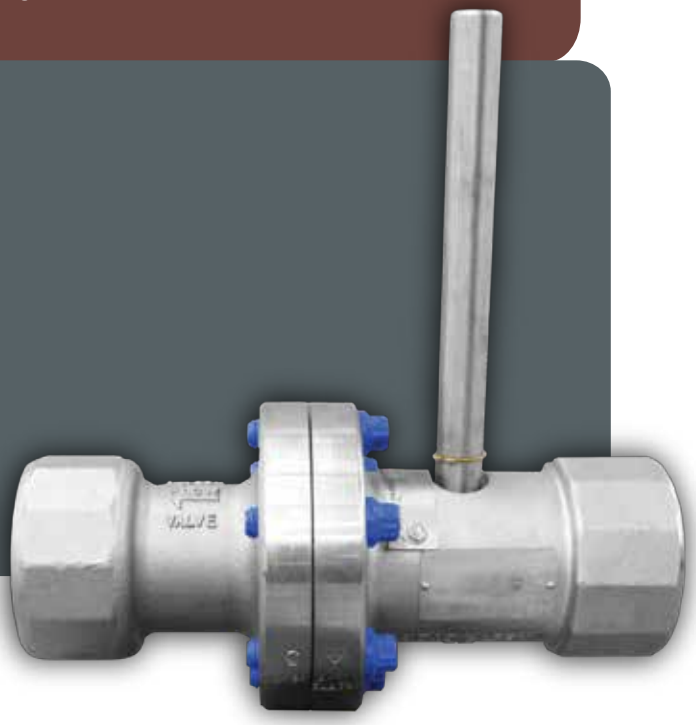
MC SERIES CHOKE VALVES

FEATURES & *Benefits*

- **Accurate Control** - 90 degree rotation from Full Off to Full On
- **Bolted Body** - Body is constructed with two bolted segments, avoiding the risk of corrosion, cross threading, galling of threaded type valve assemblies.
- **Extended Mean Time Between Service** - Robust design and liberal application of hardened materials, efficient flow-geometry means the valves offer maximum production potential and minimum service requirements.
- **Easy Maintenance** - Choke valves are designed to provide simple straightforward disassembly with no special tooling or fixtures.
- **Optional Features** - Choke valves can have trims and actuators custom designed for specific requirements, such as, special trims for noise reduction and sand control, several trims are available to accommodate high pressure flows or minimum pressure loss applications.

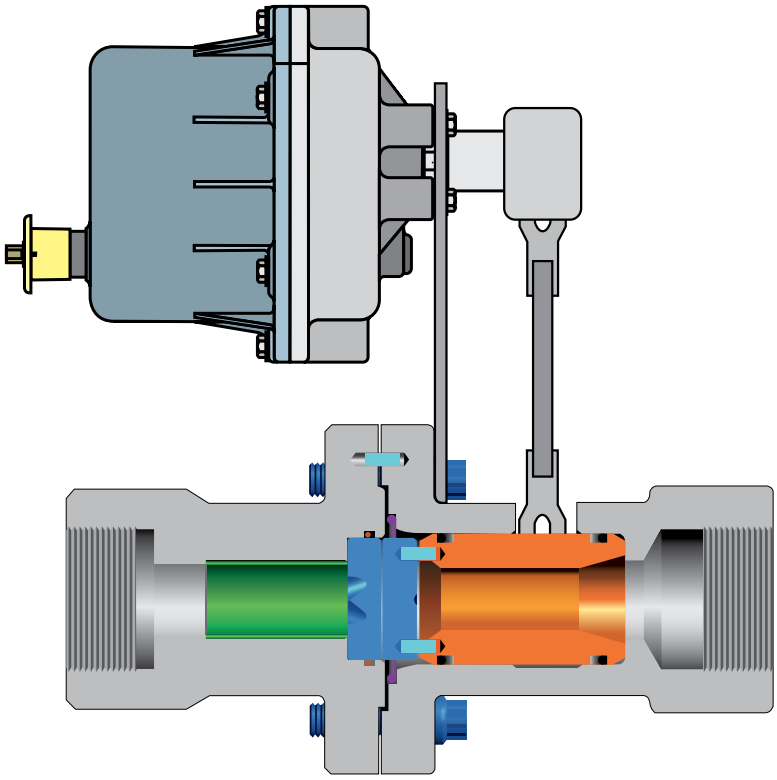
Applications:

- Well Site Automation
- Water Injection Control Valve
- CO2 Injection Control Valve
- Pump Bypass
- Pump Startup
- Gas Lift Injection Control
- Blow Down and Dump Valve
- Steam Injection
- Throttling Valve
- High DP Valve
- Motor Operated Valve



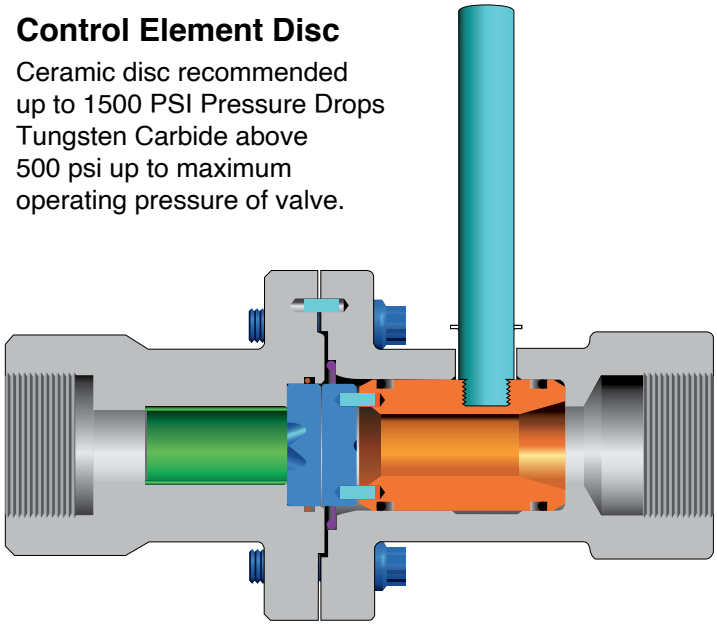
The MC Series of Inline MOV Chokes Offer:

~ ANSI Class III Shut Off
~ Linear flow characteristics
~ Downstream Wear Resistant Flow Tube
~ Simple Design for easy field maintenance
~ Choice of materials for body standard is 316 SS
~ Threaded, Flanged, Butt Weld, and Victaulic End
~ Sizes from 1” and 2” Threaded & Flanged to 3” Flanged



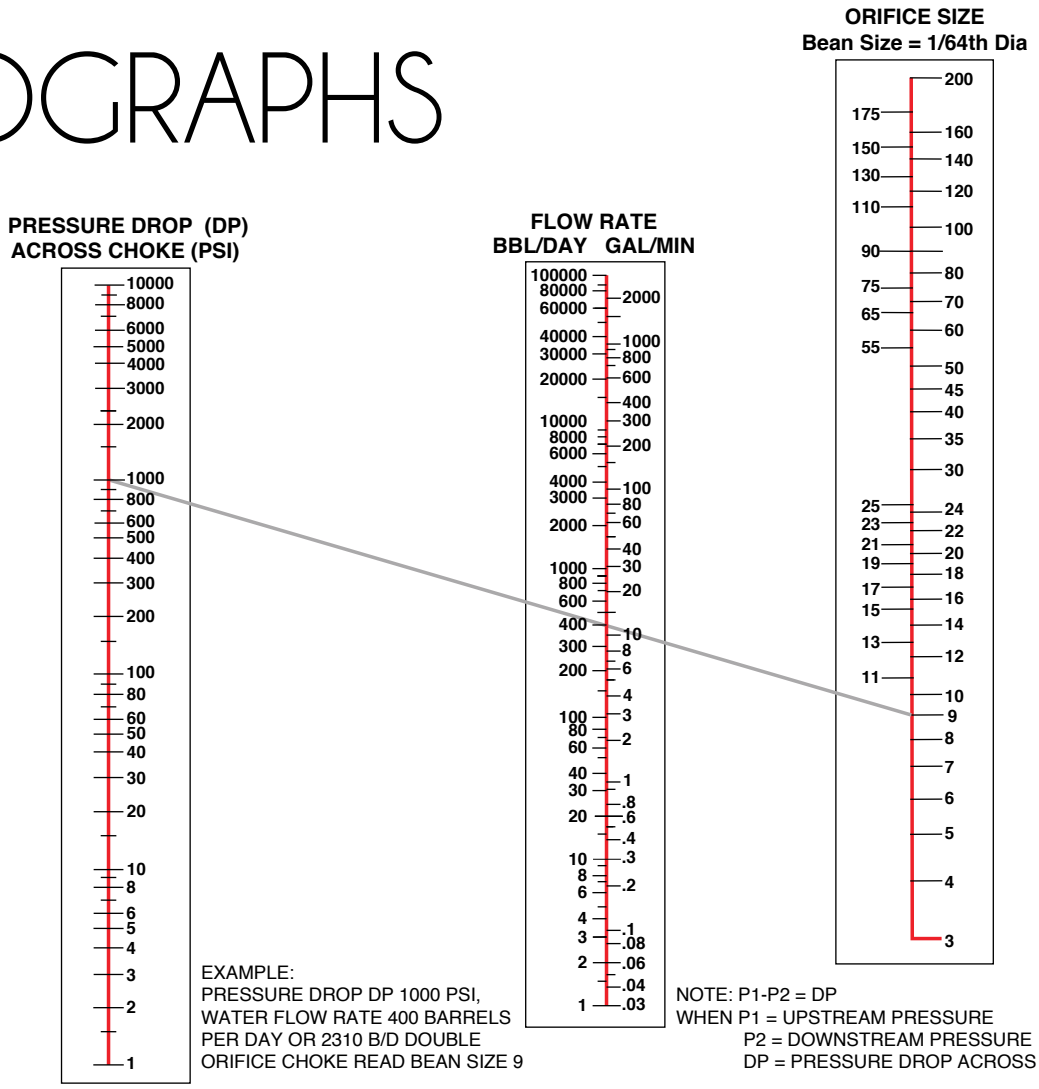
Control Element Disc

Ceramic disc recommended up to 1500 PSI Pressure Drops Tungsten Carbide above 500 psi up to maximum operating pressure of valve.



NOMOGRAPHS

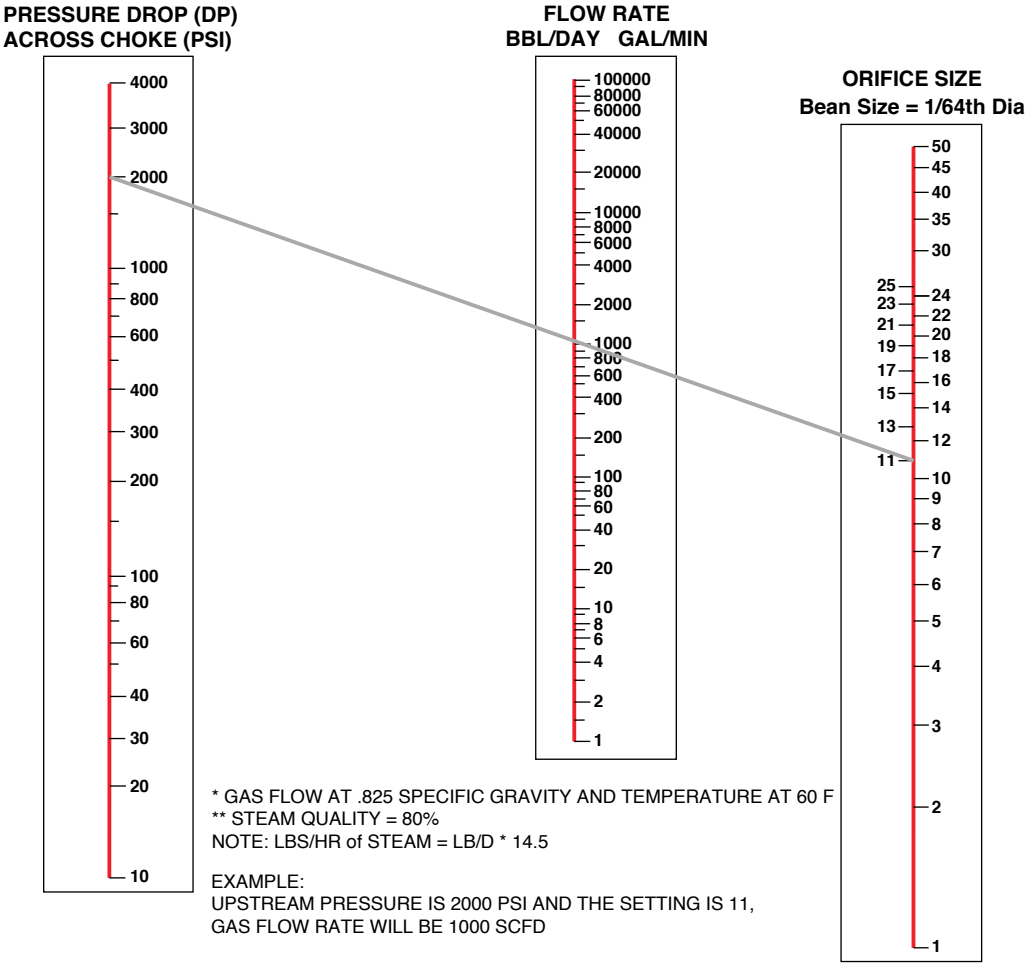
For WATER



EXAMPLE:
PRESSURE DROP DP 1000 PSI,
WATER FLOW RATE 400 BARRELS
PER DAY OR 2310 B/D DOUBLE
ORIFICE CHOKE READ BEAN SIZE 9

NOTE: P1-P2 = DP
WHEN P1 = UPSTREAM PRESSURE
P2 = DOWNSTREAM PRESSURE
DP = PRESSURE DROP ACROSS THE CHOKE

For GAS



* GAS FLOW AT .825 SPECIFIC GRAVITY AND TEMPERATURE AT 60 F
** STEAM QUALITY = 80%
NOTE: LBS/HR of STEAM = LB/D * 14.5

EXAMPLE:
UPSTREAM PRESSURE IS 2000 PSI AND THE SETTING IS 11,
GAS FLOW RATE WILL BE 1000 SCFD

Sizing Information Flow Equations

Liquid

Solve for C_v

$$C_V = Q/34.3 \sqrt{\frac{\Delta P}{S_G}}$$

Solve for Flow (Q)

$$Q = 34.3 \times C_V \sqrt{\frac{\Delta P}{S_G}}$$

Where:

P_1 = Inlet Pressure (psia)
P_2 = Outlet Pressure (psia)
ΔP = P_1-P_2
Q = Flow Rate (BPD)
S_G = Specific Gravity - Water = 1.00
C_V = Valve coefficient of Flow

Sizing Data for Liquids

P_1 - Inlet Pressure (psia, psig, Bara, kPaa)
P_2 - Outlet Pressure (psia, psig, Bara, kPaa)
Q_L - Flow (bbl/d, gal/min, lbs/hr, kg/hr, m/d)
S_G - Specific Gravity of Liquid
T - Temperature (F^o, C^o, R^o, K^o)

2 Phase Flow

P_1 - Inlet Pressure (psia, psig, Bara, kPaa)
P_2 - Outlet Pressure (psia, psig, Bara, kPaa)
Q_G - Flow (scf/d, m^3/hr, kg/hr)
Q_L - Flow (bbl/d, gal/min, lbs/hr, kg/hr, m/d)
G_G - Specific Gravity of Gas
S_G - Specific Gravity of Liquid
T - Temperature (F^o, C^o, R^o, K^o)

Gas

Solve for C_v

$$C_V = Q / .0234 \sqrt{\frac{\Delta P\,(P_1+P_2)}{G_G}}$$

Solve for Flow (Q)

$$Q = C_V \times .0234 \sqrt{\frac{\Delta P\,(P_1+P_2)}{G_G}}$$

Where:

P_1 = Inlet Pressure (psia)
P_2 = Outlet Pressure (psia)
ΔP = P_1-P_2
Q = Flow Rate (MMSCFD)
G_G = Specific Gravity - Air = 1.00
C_V = Valve coefficient of Flow

Sizing Data for Gas Service

P_1 - Inlet Pressure (psia, psig, Bara, kPaa)
P_2 - Outlet Pressure (psia, psig, Bara, kPaa)
Q_G - Flow (scf/d, m^3/hr, kg/hr)
G_G - Specific Gravity
T - Temperature (F^o, C^o, R^o, K^o)

Co2 (Gaseous)

P_1 - Inlet Pressure (psia, psig, Bara, kPaa)
P_2 - Outlet Pressure (psia, psig, Bara, kPaa)
Q_G - Flow (scf/d, m^3/hr, kg/hr)
P_V - Vapor Pressure (Function of Temperature)
V - Specific Volume (Function of Temperature and P_1 Pressure)
SG_G - Specific Gravity of Gas
T - Temperature (F^o, C^o, R^o, K^o)

MC Choke Nomenclature

Choke Series
MC

Size	
1	1”
2	2”

Service Type	
0	Standard
1	NACE

Actuation Type	
0	Manual Handle

Style	
0	Non-flanged
1	RFF
2	RTJ
3	RFF X RTJ
4	RTJ X RFF

Schedule	
0	Non-flanged
1	40
2	80
3	160

Trim Material	
03	CARBIDE DISC - STELLITE WR SLV
04	CERAMIC DISC - STELLITE WR SLV
05	CARBIDE DISC - CARBIDE WR SLV
15	CERAMIC DISC - NO WR SLV
16	CARBIDE DISC - NO WR SLV
32	CERAMIC DISC/CARBIDE FLOW TUBE

Body Material	
00	DUPLEX SS
03	CARBON STEEL
04	LOW ALLOY (4130 LACS)
05	316 SS (CF8M)
06	316 SS "L" (CF3M)
08	A350 LF2
09	LCC
11	SUPER DUPLEX SS

MC – 2 0 0 17 17 1 2 04 05 03 04 = MC-20017171204050304

Choke part number has to be 17 digits.

EXAMPLE ONLY*

Inlet Connection Outlet Connection	
01	1" FNPT
02	1" BUTT WELD
04	1" VICTAULIC
05	1" 150
06	1" 300
07	1" 600
08	1" 900/1500
09	1" 2500
10	2" FNPT
12	2" BUTT WELD
14	2" VICTAULIC
15	2" 150
16	2" 300
17	2" 600
18	2" 900/1500
19	2" 2500
20	3" FNPT
21	3" BUTT WELD
22	3" SOCKET WELD
23	3" 150
24	3" 300
25	3" 600
26	3" 900
27	3" 1500
28	3" 2500

Orifice Size	
01	(2) 1/8" RND PORTS
02	(2) 3/16" RND PORTS
03	(2) 1/4" RND PORTS
04	(2) 3/8" RND PORTS
05	(2) 1/2" RND PORTS
06	(2) 5/8" PIE PORTS

Seal Material	
00	HNBR/HSN
01	NBR
03	EPDM
04	FKM (VITON)
05	NEOPRENE
06	NBR (PEROXIDE CURED)
07	STEAM SEALS
09	AFLAS
11	V8588
12	KALREZ 7075
49	FKM VG109 (AED)

PINS	
I	INCONEL (Optional)

Butt weld connections MUST specify a schedule.

All API connections are “RTJ” style by default.

API flange bore (SCHEDULE) is specified by API.

REVISED: 06-30-26

*For more options, contact Taylor Valve.

06/30/2026

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