

Features

- Full Port stainless steel ball valve
- 316SS 3-piece investment cast body
- Swing-out center section
- RTFE (reinforced Teflon) ball seats
- Triple PTFE/Viton live loaded stem seals, adjustable
- Highly visual dome style valve position indicator
- Rugged aluminum Type 4X weatherproof enclosure
- Heavy duty motors with overload protection
- Thermostatically controlled anti-condensation heater
- Manual override with end of travel mechanical stops
- Two auxiliary limit switches included with on-off units
- EPS - Electronic Positioning System models available
- Actuators CSA listed per UL429 and CSA C22.2

Applications

On-Off or modulating control (with EPS) of water, air, oil and other media compatible with the materials of construction. Suitable for vacuum service up to 29inchHg. Actuator designed for 70% duty cycle.

Operation

On-Off electric actuated valve uses power-to-open and power-to-close, stays in the last known position with loss of power. On receipt of a continuous voltage signal, the motor runs and via a rugged all metal gear system rotates the ball 90°. The motor is automatically stopped by internal cams striking limit switches. On receipt of a reversing continuous signal, the motor turns in the opposite direction reversing the valve position. Valves with EPS-Electronic Positioning System provide 0-100% control of flow via a 4-20mA input control signal. Power connections via included cable connector or optional 1/2" NPT conduit adapter.

Construction

Valve Body	316 stainless steel ASTM A351 CF8M
Ball/Stem	316 stainless steel
Ball Seats	RTFE (reinforced Teflon)
Stem Seals	PTFE / Viton
Anti-static Device	Ball to Stem (1/4" - 4") + Stem to Body (1-1/2" - 4")
Gear Drive	Heavy duty alloy steel and aluminium bronze
Actuator Enclosure	Aluminum, polyester powder painted, Type 4X, IP67
Visual Valve Position Indicator	Clear polycarbonate cover, red/yellow open-closed
Fasteners	Stainless Steel
Auxiliary Limit Switches	2 x SPDT 3A@125/250VAC, 30VDC resistive load on-off actuators only



Description

Electric actuated 3-piece stainless steel full port ball valves are investment cast with unrestricted flow and minimum pressure loss. Adjustable live loaded stem seal packing helps compensate for wear, pressure and/or temperature fluctuations, extending the cycle life of the valve. Rugged corrosion resistant electric actuator includes a manual override, valve position confirmation switches (on-off units), thermostatically controlled anti-condensation heater, and over-torque protection.

Approvals

Actuators

- CSA listed:
 - UL429
 - CSA C22.2 No. 139
 - Type 4X weatherproof enclosure
- CE conformance- EN 602041:2006



Valves

- Design: API 608
- Testing: API 598
- Threaded Connection: ASME B1.20.1 (NPT)/ ISO 228-1/ BS21
- Pressure/Temperature Rating: ASME B16.34
- Marking: MSS SP-25
- CE conformance- PED 2014/68/UE

Construction Features

Auxiliary Limit Switches(2) for confirming valve position, standard with on-off units

Heavy duty integral motor design significantly reduces physical size of actuator

Rugged polyester powder coated aluminum corrosion resistant Type 4X weatherproof enclosure

Triple PTFE/Viton live loaded stem seals design, adjustable

316SS Ball and Stem, RTFE ball seats

Anti-Condensation Heater

Terminal Box, wire directly to terminal strip via included cable connector or optional 1/2" NPT conduit adapters.

Manual Override with protective cover

Self-locking all metal gear train, no additional brake required

Direct mount ISO5211 flange, no brackets required

Full Port 316 stainless steel ball valve, repairable and easily removed from pipe line



Visual Valve Position Indicator

Pressure-Temperature*

Pressure Rating: 1000 PSI (69 Bar) CWP non-shock 1/4" to 2" sizes

800 PSI (55 Bar) CWP non-shock 2-1/2" and 4" sizes

Vacuum 29inHg

Ball Valve Temperature Rating: -4 to 392° F (-20 to 200° C)

Actuator Temperature Rating: -13 to 131° F (-25 to 55° C)

*See P/T chart (pg 3 & 5)

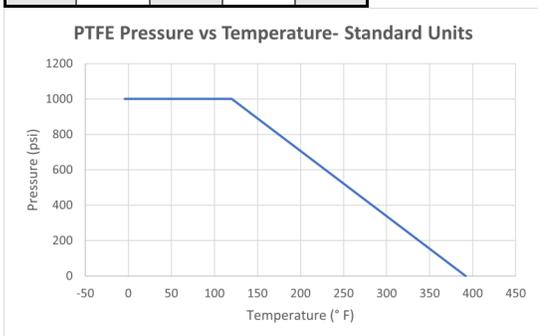
Specifications: On-Off Valves (English units)

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI)*	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED 3-pc STAINLESS BALL VALVES, ON-OFF version									
565302E	1/4	0.5	6.9	1000	12/10	110 VAC,50/60Hz	0.27	70%	B
565303E	3/8	0.5	6.9	1000	12/10	110 VAC,50/60Hz	0.27	70%	B
565304E	1/2	0.6	9.7	1000	12/10	110 VAC,50/60Hz	0.27	70%	B
565306E	3/4	0.8	18.4	1000	12/10	110 VAC,50/60Hz	0.27	70%	B
565308E	1	1.0	55.4	1000	12/10	110 VAC,50/60Hz	0.27	70%	B
565310E	1-1/4	1.3	89.7	1000	25/21	110 VAC,50/60Hz	0.27	70%	B
565312E	1-1/2	1.5	144.2	1000	25/21	110 VAC,50/60Hz	0.27	70%	B
565316F	2	2.0	226.0	1000	30/25	110 VAC,50/60Hz	0.64	70%	B
565317C	2-1/2	2.6	289.0	800	30/25	110 VAC,50/60Hz	0.73	70%	B
565318C	3	3.2	454.0	800	30/25	110 VAC,50/60Hz	0.73	70%	B
565319C	4	3.9	1364.7	800	45/37	110 VAC,50/60Hz	1.27	70%	B
24 VDC ELECTRIC ACTUATED 3-pc STAINLESS BALL VALVES, ON-OFF version									
565344E	1/4	0.5	6.9	1000	20	DC24	1.28	70%	G
565345E	3/8	0.5	6.9	1000	20	DC24	1.28	70%	G
565346E	1/2	0.6	9.7	1000	20	DC24	1.28	70%	G
565347E	3/4	0.8	18.4	1000	20	DC24	1.28	70%	G
565349E	1	1.0	55.4	1000	20	DC24	1.28	70%	G
565350E	1-1/4	1.3	89.7	1000	20	DC24	1.28	70%	G
565351E	1-1/2	1.5	144.2	1000	20	DC24	1.28	70%	G
565352F	2	2.0	226.0	1000	30	DC24	2.03	70%	G
565353C	2-1/2	2.6	289.0	800	30	DC24	3.57	70%	G
565354C	3	3.2	454.0	800	30	DC24	3.57	70%	G
565375C	4	3.9	1364.7	800	45	DC24	6.04	70%	G

* Pressure @ 100° F (see P/T chart for higher temperatures)

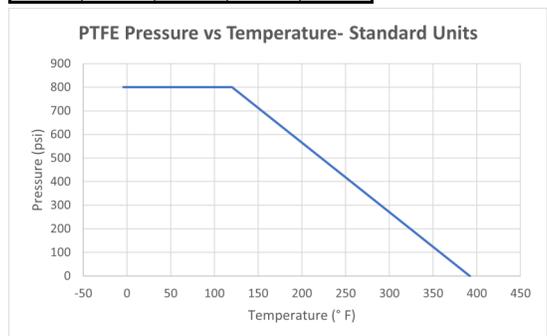
Pressure/Temperature Chart 1000 PSI (69 Bar)

P/T Chart (PSI/°F)				
PSI	1000	1000	100	0
°F	-4	50	330	392



Pressure/Temperature Chart 800 PSI (55 Bar)

P/T Chart (PSI/°F)				
PSI	800	800	100	0
°F	-4	50	330	392





Electric Actuated Ball Valves

3-piece Stainless Steel, Full Port EPS Positioner Models

SERIES
5653

Specifications: Valves with EPS Positioner (English units)

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI)*	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED 3-pc STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
565355E	1/4	0.5	6.9	1000	25/21	110 VAC,50/60Hz	0.27	70%	E
565356E	3/8	0.5	6.9	1000	25/21	110 VAC,50/60Hz	0.27	70%	E
565357E	1/2	0.6	9.7	1000	25/21	110 VAC,50/60Hz	0.27	70%	E
565358E	3/4	0.8	18.4	1000	25/21	110 VAC,50/60Hz	0.27	70%	E
565359E	1	1.0	55.4	1000	25/21	110 VAC,50/60Hz	0.27	70%	E
565360E	1-1/4	1.3	89.7	1000	25/21	110 VAC,50/60Hz	0.27	70%	E
565361E	1-1/2	1.5	144.2	1000	25/21	110 VAC,50/60Hz	0.27	70%	E
565362F	2	2.0	226.0	1000	30/25	110 VAC,50/60Hz	0.64	70%	E
565363C	2-1/2	2.6	289.0	800	30/25	110 VAC,50/60Hz	0.73	70%	E
565364C	3	3.2	454.0	800	30/25	110 VAC,50/60Hz	0.73	70%	E
565376C	4	3.9	1364.7	800	45/37	110 VAC,50/60Hz	1.27	70%	E
24 VDC ELECTRIC ACTUATED 3-pc STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
565365E	1/4	0.5	6.9	1000	30	DC24	1.0	70%	GEY
565366E	3/8	0.5	6.9	1000	30	DC24	1.0	70%	GEY
565367E	1/2	0.6	9.7	1000	30	DC24	1.0	70%	GEY
565368E	3/4	0.8	18.4	1000	30	DC24	1.0	70%	GEY
565369E	1	1.0	55.4	1000	30	DC24	1.0	70%	GEY
565370E	1-1/4	1.3	89.7	1000	30	DC24	1.0	70%	GEY
565371E	1-1/2	1.5	144.2	1000	30	DC24	1.0	70%	GEY
565372F	2	2.0	226.0	1000	30	DC24	2.03	70%	GEY
565373C	2-1/2	2.6	289.0	800	30	DC24	3.57	70%	GEY
565374C	3	3.2	454.0	800	30	DC24	3.57	70%	GEY
565377C	4	3.9	1364.7	800	45	DC24	6.04	70%	GEY

* Pressure @ 100° F (see P/T chart for higher temperatures)

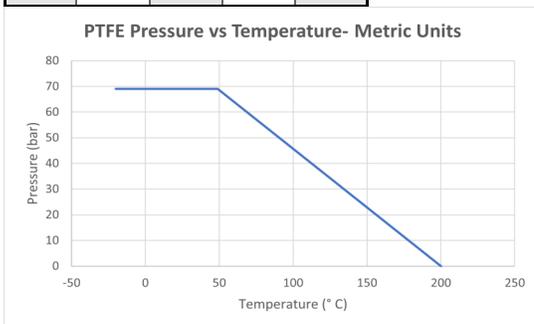
Specifications: On-Off Valves (Metric units)

Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED 3-pc STAINLESS BALL VALVE, ON-OFF version									
565302E	1/4	11.5	5.9	69	12/10	110 VAC,50/60Hz	0.27	70%	B
565303E	3/8	12.5	5.9	69	12/10	110 VAC,50/60Hz	0.27	70%	B
565304E	1/2	15.0	8.4	69	12/10	110 VAC,50/60Hz	0.27	70%	B
565306E	3/4	20.0	15.9	69	12/10	110 VAC,50/60Hz	0.27	70%	B
565308E	1	25.0	47.9	69	12/10	110 VAC,50/60Hz	0.27	70%	B
565310E	1-1/4	32.0	77.6	69	25/21	110 VAC,50/60Hz	0.27	70%	B
565312E	1-1/2	38.0	124.7	69	25/21	110 VAC,50/60Hz	0.27	70%	B
565316F	2	50.0	195.5	69	30/25	110 VAC,50/60Hz	0.64	70%	B
565317C	2-1/2	65.0	249.7	55	30/25	110 VAC,50/60Hz	0.73	70%	B
565318C	3	80.0	392.3	55	30/25	110 VAC,50/60Hz	0.73	70%	B
565319C	4	100.0	1179.1	55	45/37	110 VAC,50/60Hz	1.27	70%	B
24 VDC ELECTRIC ACTUATED 3-pc STAINLESS BALL VALVE, ON-OFF version									
565344E	1/4	11.5	5.9	69	20	DC24	1.28	70%	G
565345E	3/8	12.5	5.9	69	20	DC24	1.28	70%	G
565346E	1/2	15.0	8.4	69	20	DC24	1.28	70%	G
565347E	3/4	20.0	15.9	69	20	DC24	1.28	70%	G
565349E	1	25.0	47.9	69	20	DC24	1.28	70%	G
565350E	1-1/4	32.0	77.6	69	20	DC24	1.28	70%	G
565351E	1-1/2	38.0	124.7	69	20	DC24	1.28	70%	G
565352F	2	50.0	195.5	69	30	DC24	2.03	70%	G
565353C	2-1/2	65.0	249.7	55	30	DC24	3.57	70%	G
565354C	3	80.0	392.3	55	30	DC24	3.57	70%	G
565375C	4	100.0	1179.1	55	45	DC24	6.04	70%	G

* Pressure @ 70° C (see P/T chart for higher temperatures)

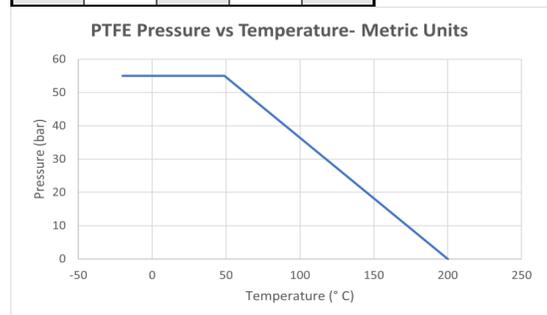
Pressure/Temperature Chart 1000 PSI (69 Bar)

P/T Chart (BAR/°C)				
Bar	69	69	7	0
°C	-20	10	166	200



Pressure/Temperature Chart 800 PSI (55 Bar)

P/T Chart (BAR/°C)				
Bar	55	55	7	0
°C	-20	10	166	200





Electric Actuated Ball Valves

3-piece Stainless Steel, Full Port EPS Positioner Models

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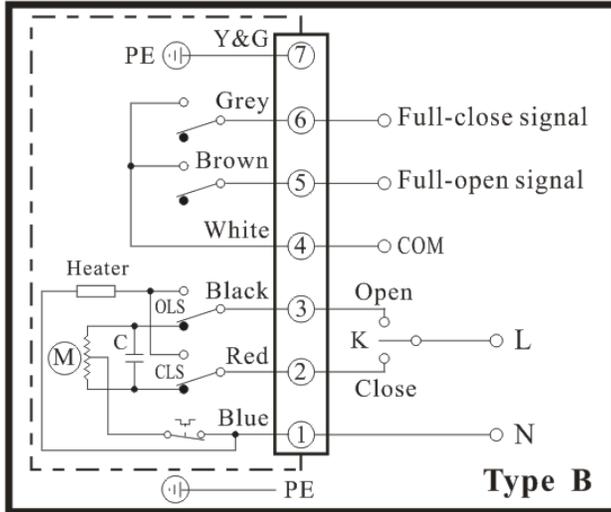
Specifications: Valves with EPS Positioner (Metric units)

Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
565355E	1/4	11.5	5.9	69	25/21	110 VAC,50/60Hz	0.27	70%	E
565356E	3/8	12.5	5.9	69	25/21	110 VAC,50/60Hz	0.27	70%	E
565357E	1/2	15.0	8.4	69	25/21	110 VAC,50/60Hz	0.27	70%	E
565358E	3/4	20.0	15.9	69	25/21	110 VAC,50/60Hz	0.27	70%	E
565359E	1	25.0	47.9	69	25/21	110 VAC,50/60Hz	0.27	70%	E
565360E	1-1/4	32.0	77.6	69	25/21	110 VAC,50/60Hz	0.27	70%	E
565361E	1-1/2	38.0	124.7	69	25/21	110 VAC,50/60Hz	0.27	70%	E
565362F	2	50.0	195.5	69	30/25	110 VAC,50/60Hz	0.64	70%	E
565363C	2-1/2	65.0	249.7	55	30/25	110 VAC,50/60Hz	0.73	70%	E
565364C	3	80.0	392.3	55	30/25	110 VAC,50/60Hz	0.73	70%	E
565376C	4	100.0	1179.1	55	45/37	110 VAC,50/60Hz	1.27	70%	E
24 VDC ELECTRIC ACTUATED STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
565365E	1/4	11.5	5.9	69	30	DC24	1.0	70%	GEY
565366E	3/8	12.5	5.9	69	30	DC24	1.0	70%	GEY
565367E	1/2	15.0	8.4	69	30	DC24	1.0	70%	GEY
565368E	3/4	20.0	15.9	69	30	DC24	1.0	70%	GEY
565369E	1	25.0	47.9	69	30	DC24	1.0	70%	GEY
565370E	1-1/4	32.0	77.6	69	30	DC24	1.0	70%	GEY
565371E	1-1/2	38.0	124.7	69	30	DC24	1.0	70%	GEY
565372F	2	50.0	195.5	69	30	DC24	2.03	70%	GEY
565373C	2-1/2	65.0	249.7	55	30	DC24	3.57	70%	GEY
565374C	3	80.0	392.3	55	30	DC24	3.57	70%	GEY
565377C	4	100.0	1179.1	55	45	DC24	6.04	70%	GEY

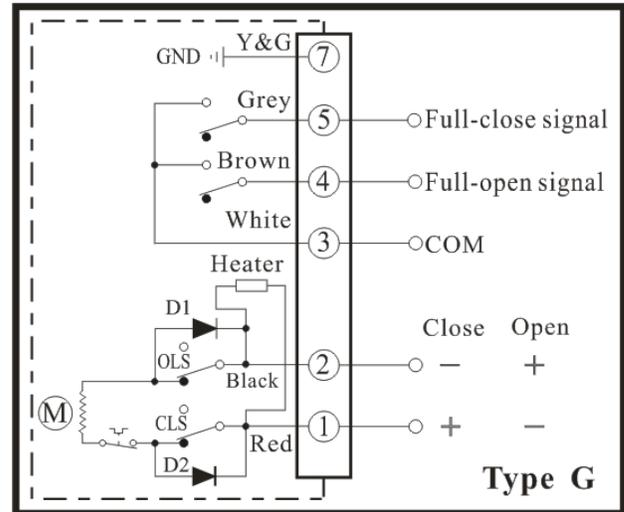
* Pressure @ 70° C (see P/T chart for higher temperatures)

Electrical Wiring

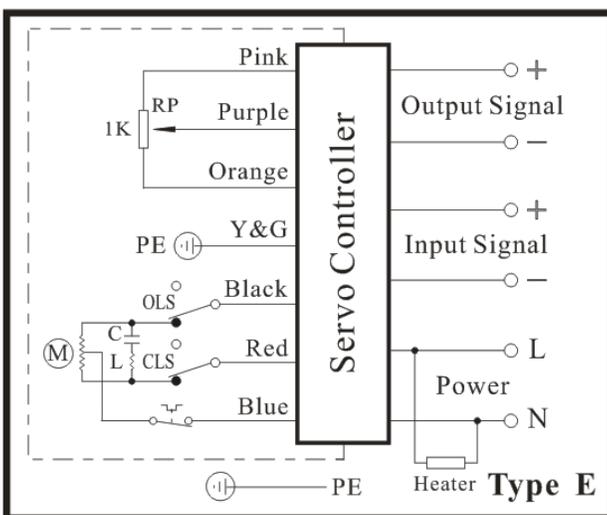
ON-OFF Valves AC Voltages



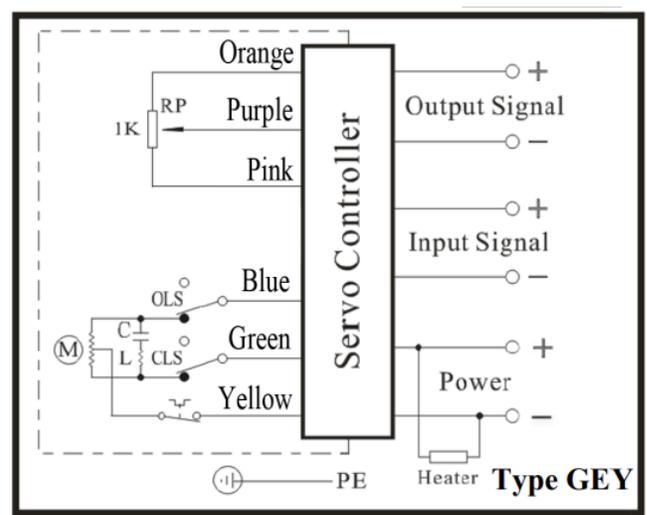
ON-OFF Valves DC Voltages



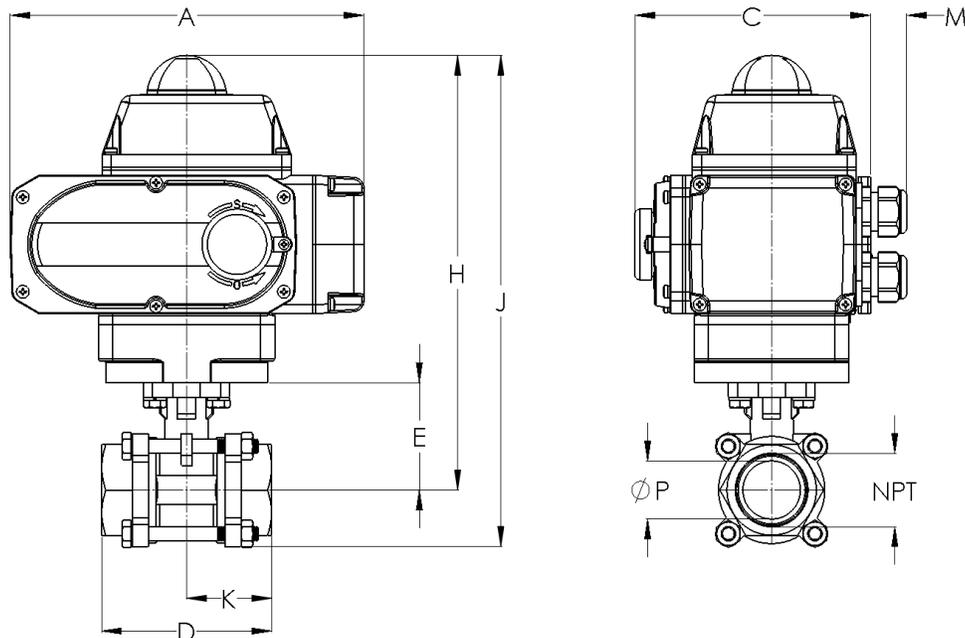
Valves with EPS Positioners AC Voltages



Valves with EPS Positioners DC Voltages



Dimensions:



Pipe Size (NPT)		A	C	D	E	H	J	K	M	P	Weight (AC/DC)
1/4	inch	6.4	4.7	2.5	1.5	7.7	8.6	1.4	1.0	0.5	7.3 lb
	mm	162.0	118.5	63.5	37.0	195.6	218.4	36.3	25.0	11.5	3.3 kg
3/8	inch	6.4	4.7	2.5	1.5	7.7	8.6	1.3	1.0	0.5	7.3 lb
	mm	162.0	118.5	63.5	37.0	195.6	218.4	31.8	25.0	12.5	3.3 kg
1/2	inch	6.4	4.7	2.5	1.5	7.7	8.6	1.3	1.0	0.6	7.1 lb
	mm	162.0	118.5	63.5	37.0	195.6	218.4	31.8	25.0	15.0	3.2 kg
3/4	inch	6.4	4.7	2.9	1.8	8.0	8.8	1.4	1.0	0.8	7.5 lb
	mm	162.0	118.5	72.5	45.0	203.2	223.5	36.3	25.0	20.0	3.4 kg
1	inch	6.4	4.7	3.2	2.1	8.3	9.4	1.6	1.0	1.0	8.0 lb
	mm	162.0	118.5	81.0	53.5	210.8	238.8	40.5	25.0	25.0	3.6 kg
1-1/4	inch	6.4	4.7	3.7	2.3	8.5	9.8	1.9	1.0	1.3	8.3 lb
	mm	162.0	118.5	94.5	59.0	215.9	248.9	47.3	25.0	32.0	3.8 kg
1-1/2	inch	6.4	4.7	4.3	2.9	9.1	10.6	2.1	1.0	1.5	10.3 lb
	mm	162.0	118.5	108.0	74.8	231.1	269.2	54.0	25.0	38.0	4.7 kg
2	inch	7.7	5.0	4.8	3.3	10.4	12.2	2.4	1.0	2.0	16.3 lb
	mm	196.5	126.0	122.0	83.5	264.2	309.9	61.0	25.0	50.0	7.4 kg
2-1/2	inch	10.1	6.4	6.2	4.3	12.8	15.0	3.1	1.0	2.6	35.9 lb
	mm	255.5	161.5	158.0	109.0	325.1	381.0	79.0	25.0	65.0	16.3 kg
3	inch	10.1	6.4	7.5	4.7	13.2	15.8	3.7	1.0	3.2	43.2 lb
	mm	255.5	161.5	190.0	118.0	335.3	401.3	95.0	25.0	80.0	19.6 kg
4	inch	10.1	6.4	2.5	6.1	14.6	17.9	4.4	1.0	3.9	67.1 lb
	mm	255.5	161.5	63.5	153.8	370.8	454.7	112.5	25.0	100.0	30.5 kg