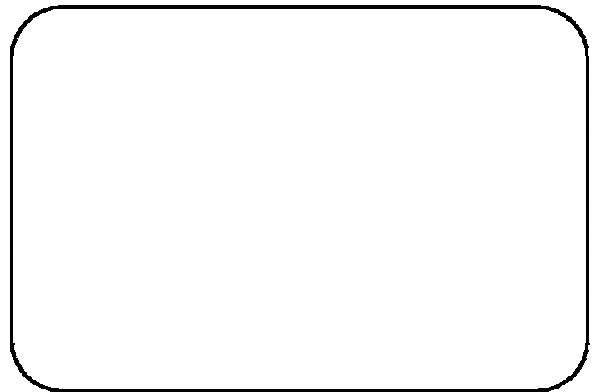


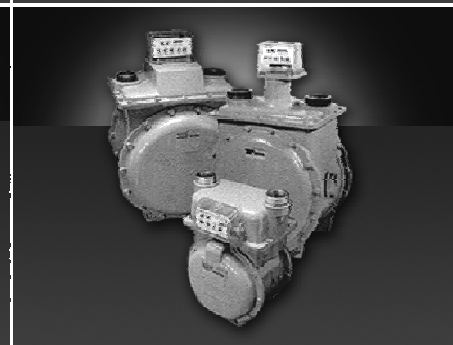


Natural and Propane Gas Regulation, Measurement and Controls

Distributed By



## Roots® Series B3 Meters



[www.gasesentials.com](http://www.gasesentials.com)

# ROOTS® Series B3

## Line Mount Meters

### Right Size the Meter to the Application

Series B3 Meters are designed to provide accurate gas measurement over widely fluctuating flow, pressure, and temperature conditions. For further versatility, the five smallest meter sizes (8C through 3M) have 2" (50mm) flanged connections, and a 6-3/4" (171mm) flange-to-flange dimension. If application requirements change, this unique, cost-effective feature allows a quick and easy meter exchange without the need to re-pipe the meter set.

#### Other key features include:

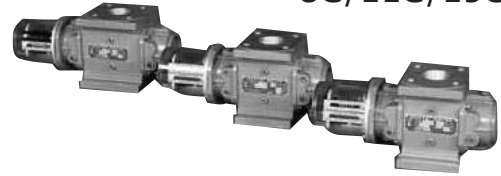
- Capacity ratings from 800 CFH to 56,000 CFH (22,6 m<sup>3</sup>/h to 1,600 m<sup>3</sup>/h)
- Maximum operating pressure rating of 175 PSIG (12 Bar)
- Operating temperature range from -40° to +140F (-40°C +60°C)

Unlike other meter types, measurement accuracy is not affected by changes in gas specific gravity, pressure, or fluctuation flow. **ROOTS®** meters may be used from a few ounces to full capacity up to the meter's maximum pressure rating with highly accurate measurement over a wide operating range. This equates to a lower total cost.

The condition of a **ROOTS®** rotary meter can be verified by performing a differential rate test while the meter is still in service. This simple and cost-effective preventive maintenance procedure contributes to a significant reduction in the whole life cost of the meter.

As shown in the picture, two contra-rotating impellers of two-lobe or "figure 8" contour are encased within a rigid measuring chamber, with inlet and outlet connections on opposite sides. Precision machined timing gears keep the impellers in correct relative position. Optimal operating clearances between the impellers, cylinder and headplates provide a continuous, non-contacting seal.

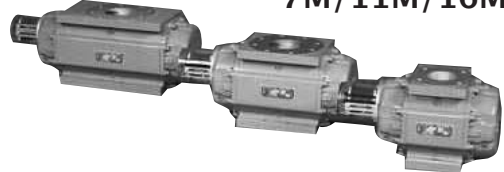
#### ▼ 8C/11C/15C



#### ▼ 2M/3M/5M



#### ▼ 7M/11M/16M



## The ROOTS® Meter Operating Principal

The **ROOTS®** meter is designed to measure the volume of gases and gas mixtures with a high degree of accuracy. The industry accepted rotary type positive displacement operating principle ensures permanent, non-adjustable accuracy by using precision machined two-lobe impellers encased within a rigid measuring chamber.



Precision machined for exceptional accuracy

# ROOTS® Series B3

## Imperial Sizing Charts

Line Mounted											Foot Mount		
MODEL	8C175*	11C175*	15C175*	2M175*	3M175*	5M175*	7M175	11M175	16M175	23M175	38M175	56M175	102M125
*Also available in 200 PSIG Rating													
RATING PSIG	800	1100	1500	2000	3000	5000	7000	11000	16000	23000	38000	56000	102000
Corrected Capacity at Metering Pressure – in MSCFH													
1	0.84	1.15	1.57	2.09	3.1	5.2	7.3	11.5	16.7	24.0	39.7	58.5	106.6
3	0.94	1.30	1.77	2.60	3.5	5.9	8.3	13.0	18.9	27.2	44.9	66.1	120.5
5	1.05	1.45	1.98	2.63	4.0	6.6	9.2	14.5	21.1	30.3	50.0	73.8	134.3
10	1.32	1.82	2.48	3.31	5.0	8.3	11.6	18.2	26.5	38.1	62.9	92.7	168.9
15	1.60	2.20	2.99	3.89	6.0	10.0	14.0	22.0	31.9	45.9	75.8	111.8	203.6
20	1.87	2.57	3.50	4.67	7.0	11.7	16.3	25.7	37.4	53.7	88.7	130.8	238.2
25	2.14	2.94	4.01	5.35	8.0	13.4	18.7	29.4	42.8	61.5	101.7	149.8	272.9
30	2.41	3.32	4.52	6.03	9.0	15.1	21.1	33.2	48.2	69.3	114.5	168.8	307.4
40	2.95	4.06	5.54	7.35	11.1	18.5	25.9	40.6	59.1	84.9	140.3	206.8	376.7
50	3.50	4.81	6.56	8.74	13.1	21.9	30.6	48.1	70.0	100.6	166.1	244.8	445.9
60	4.04	5.56	7.58	10.10	15.2	25.3	35.4	55.6	80.8	116.2	191.9	282.9	515.2
70	4.58	6.30	8.60	11.50	17.2	28.7	40.1	63.0	91.7	131.8	217.7	320.9	584.5
80	5.13	7.05	9.61	12.80	19.2	32.0	44.9	70.5	102.5	147.4	243.5	358.9	653.7
90	5.67	7.80	10.63	14.20	21.3	35.4	49.6	78.0	113.4	163.0	269.3	396.9	723.0
100	6.21	8.54	11.65	15.50	23.3	38.8	54.4	85.4	124.3	178.6	295.1	434.9	792.1
110	6.76	9.29	12.67	16.93	25.3	42.2	59.1	92.9	135.1	194.2	320.9	472.9	861.4
120	7.30	10.04	13.69	18.25	27.4	45.6	63.9	100.4	146.0	209.9	346.7	510.9	930.6
125	7.57	10.41	14.20	18.90	28.4	47.3	66.2	104.1	151.4	217.7	359.6	530.0	965.3
135	8.11	11.16	15.21	20.33	30.4	50.7	71.0	111.6	162.3	233.3	385.4	568.0	
150	8.93	12.28	16.74	22.30	33.5	55.8	78.1	122.8	178.6	256.7	424.1	625.0	
175	10.29	14.15	19.29	25.70	38.6	64.3	90.0	141.5	205.8	295.8	488.7	720.2	

## Metric Sizing Charts

Line Mounted – Metric											Foot Mount				
MODEL	8C175*		11C175*	15C175*	2M175	3M175	5M175	7M175	11M175	16M175	23M175	38M175	56M175	102M125	
*Also Available with 200 PSIG Rating (13.8 BAR); (1379 Kpa); (14.1 kg/cm <sup>2</sup> )															
RATING PSIG	Bar	kPa	22,6	31	42	57	85	142	200	310	450	650	1000	1600	2885
Corrected Capacity at Metering Pressure – in Nm <sup>3</sup> /H															
1	0,07	7	23,7	32,6	44,4	59,2	88,8	148,0	207,2	325,5	473,5	680,7	1124,6	1657,3	3018,6
3	0,21	21	26,8	36,8	50,2	66,9	100,3	167,2	234,1	367,9	535,1	769,3	1270,9	1873,0	3411,5
5	0,34	34	29,8	41,0	55,9	74,6	111,9	186,5	261,1	410,3	596,8	857,8	1417,3	2088,7	3804,3
10	0,69	69	37,5	51,6	70,3	93,8	140,7	234,5	328,3	515,9	750,4	1078,7	1782,1	2626,3	4783,6
15	1,03	103	45,2	62,2	84,8	113,1	169,6	282,6	395,7	621,8	904,4	1300,1	2148,0	3165,5	5765,7
20	1,38	138	52,9	72,7	99,2	132,3	198,4	330,6	462,9	727,4	1058,0	1520,9	2512,8	3703,1	6745,0
25	1,72	172	60,6	83,3	113,6	151,5	227,3	378,8	530,3	833,3	1212,1	1742,4	2878,7	4242,3	7727,1
30	2,1	207	68,3	93,9	128,0	170,7	256,1	426,8	597,5	938,9	1365,7	1963,2	3243,5	4780,0	8706,4
40	2,8	276	83,7	115,0	156,9	209,2	313,8	522,9	732,1	1150,4	1673,4	2405,5	3974,3	5856,8	10667,7
50	3,4	345	99,1	136,2	185,7	247,6	371,4	619,1	866,7	1362,0	1981,0	2847,7	4705,0	6933,6	12629,1
60	4,1	414	114,4	157,3	214,6	286,1	429,1	715,2	1001,3	1573,5	2288,7	3290,0	5435,7	8010,5	14590,5
70	4,8	483	129,8	178,5	243,4	324,5	486,8	811,4	1135,9	1785,0	2596,4	3732,3	6166,4	9087,3	16551,9
80	5,5	552	145,2	199,7	272,3	363,0	544,5	907,5	1270,5	1996,5	2904,0	4174,6	6897,1	10164,2	18513,3
90	6,2	621	160,6	220,8	301,1	401,5	602,2	1003,7	1405,1	2208,1	3211,7	4616,8	7627,8	11241,0	20474,7
100	6,9	689	175,9	241,9	329,9	439,9	659,8	1099,7	1539,5	2419,3	3518,9	5058,5	8357,5	12316,3	22433,2
110	7,6	758	191,3	263,1	358,7	478,3	717,5	1195,8	1674,1	2630,8	3826,6	5500,7	9088,2	13393,1	24394,6
120	8,3	827	206,7	284,2	387,6	516,8	775,2	1292,0	1808,7	2842,3	4134,3	5943,0	9818,9	14469,9	26356,0
125	8,6	862	214,4	294,8	402,0	536,0	804,1	1340,1	1876,1	2948,2	4288,3	6164,5	10184,8	15009,1	27338,1
135	9,3	931	229,8	315,9	430,8	574,4	861,7	1436,1	2010,6	3159,4	4595,5	6606,1	10914,4	16084,4	
150	10	1034	252,9	347,7	474,1	632,2	948,2	1580,4	2212,6	3476,9	5057,3	7269,8	12011,0	17700,5	
175	12	1207	291,4	400,6	546,3	728,4	1092,6	1821,0	2549,4	4006,1	5827,1	8376,5	13839,4	20394,9	