

Dresser Series B ROOTS™ Meters

Featuring Series 3 Accessory Units

Full Range of Sizes

Dresser Measurement offers a competitive range of 13 sizes of rotary meters for commercial and industrial metering applications, allowing for the selection of the correct meter size for cost effectiveness and accurate measurement.

Standardized Flanges

Sizes 8C through 3M have a 6-3/4" (171mm) flange-to-flange dimension and ANSI 150 2" flanges for standardization in the meter set design. As loads change, meter sizes are easily interchanged, saving the cost of re-piping.

Accurate Low Flow Performance

Low start/stop rates extend the rangeability (gas measured) over a wider range of flow conditions.

Low Pressure Differentials

Reducing the maximum operating speed provides lower pressure differentials for low pressure applications, as well as extending the meter's life-expectancy.

Dresser Series B3 ROOTS™ meters are designed to provide accurate gas measurement over a wide range of flow, pressure and temperature conditions.

Available types include:

- CTR – Non-Compensated Counter
- CD – Non-Compensated Counter with Instrument Drive
- TC – Temperature Compensated Counter
- TD – Temperature Compensated Counter with Instrument Drive
- CTR or TC with Solid State Pulsar – Low Frequency pulse output
- CTR or TC with AMR Adapter
- ICEX – Counter (CTR) with High Frequency Electronic Transmitter
- ES3 – Electronic Temperature Compensated Index with Mechanical Counter

Series B meter bodies are also available with the integral electronic Dresser IMC/W2 volume, pressure and temperature corrector, or the Dresser IMC/W2-T for a “temperature only” corrected reading. For further information on the IMC/W2 electronic volume corrector and the electronic counter (ES3), please consult the factory.

Dresser Series 3 Accessory Units

Oil-Free Design

Series 3 accessories feature high quality and long-term reliability with an oil-free permanently lubricated design. Oil is not required for the Polymer bushings and pre-lubricated, shielded ball bearings. Permanent lubrication equates to easier installation and less maintenance.

Durable, Weather Resistant Cover

Optical quality Panlite® covers on Series 3 accessories offer exceptional ultraviolet protection while the cylindrical design allows the unit to easily shed rain, snow, ice and dirt. The single piece cover design provides added protection against leakage under extreme conditions.

High and Low Frequency Pulsar Options

The Counter with Electronic Transmitter (ICEX) provides a high frequency non-compensated pulse output for applications requiring information on the gas flow rate while the low frequency solid state pulsers are a lower cost option for both non-compensated (ICPWX) and temperature compensated (ITPWX) volume accumulation applications. Various pulses output connector types are available on the ICEX and solid state pulser units including Circular, Cable Gland and Conduit.

Non-Moving Odometer Masking System

A unique and versatile odometer masking design using opaque or semi-transparent covers offers configurable, trouble-free masking.

Universal Instrument Drive (ID) Assembly

One size fits all with the Series 3 Instrument Drive Assembly. Inventory costs are reduced by stocking one ID Assembly.

AMR Adapter

The new direct drive AMR Adapter offers you a low cost solution for Series B3 CTR or TC meters in applications that require the adaptation of a Residential ERT or Cellnet AMR. The AMR Adapter is available as a conversion kit for field installation or factory installed on new meters.

General Information

The Dresser Series B3 ROOTS™ meter is a positive displacement, rotary type gas meter designed for continuous and accurate gas measurement. Dresser meters are suitable for handling most types of clean, dry, common gases at either constant or varying flow rates. Meters of standard construction are not directly suitable for handling acetylene, biogas or sewage gas. Contact the factory for information on specially constructed meters made of materials more compatible with these and other gases.

Volumetric accuracy of the Dresser meter is permanent, non-adjustable, and is not affected by low or varying line pressure. Dresser Series B3 ROOTS™ meters may be used satisfactorily for pressures ranging from a few ounces to full Maximum Allowable Operating Pressure (MAOP). Displaced volume measurement is completely independent of the gas specific gravity, temperature, and pressure.

Dresser Series B ROOTS™ meters have a MAOP rating of 175 psig (1200kPa). Every meter is static pressure tested at the factory at twice its MAOP and leak tested at 125 percent of MAOP in accordance with ASME Boiler Pressure Vessel Codes. Other pressure ratings are available. Consult factory for the information.

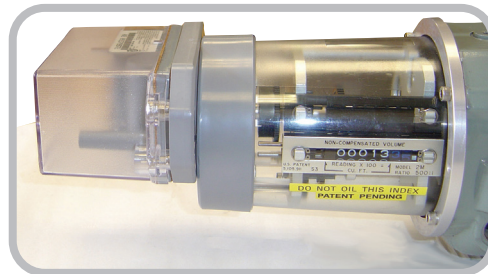
Dresser meters are manufactured in accordance with ANSI B109.3 for Rotary Type Gas Displacement Meters. Dresser Series B3 ROOTS™ meter sizes 8C through 56M, have flanged inlet and outlet connections conforming dimensionally with ANSI/ASME standards. Sizes 8C through 2M are available with 1-1/2" NPT connections, upon special request. The meter operating temperature range is from -40°F to +140°F (-40°C to +60°C) while the temperature compensating mechanism of the mechanical TC accessory provides a corrected reading for temperatures ranging from -20°F to +120°F (-29°C to +49°C).



Dresser Series B meter bodies accept a wide range of Series 3 accessories for all metering applications



AMR Adapters for Dresser Series B3 ROOTS™ meter



AMR Adapter and ERT installed on a Dresser meter (top inlet meter installation shown)



Circular



Conduit Plug



Cable Gland

Pulse output connector types

Dimensions

Technical Data	Units	8C175 ¹	11C175 ¹	15C175 ¹	2M175 ¹	3M175 ¹	5M175 ¹	7M175	11M175	16M175	23M175	23M232	38M175	56M175
Base Rating (Q Max.)	acfh	800	1100	1500	2000	3000	5000	7000	11000	16000	23000	23000	38000	56000
	m ³ /h	22,6	31,0	42,5	56,6	85,0	141,5	200,0	310,0	450,0	650,0	650,0	1050,0	1575,0
Max. Operating Pressure (MAOP)*	psig	175	175	175	175	175	175	175	175	175	175	232	175	175
	kPa	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1600	1200	1200
Rangeability +/- 1%	ratio	26:1	31:1	40:1	68:1	76:1	120:1	67:1	124:1	116:1	40:1	169:1	90:1	53:1
Start Rate	cfh	2.8	2.3	1.9	1.01	2.1	1.2	5.3	3.9	3.2	23	10.33	27	40
	m ³ /h	0,0790	0,0651	0,0549	0,0538	0,0595	0,0340	0,1509	0,1099	0,0917	0,6513	0,2926	0,7646	11,327
Stop Rate	cfh	2	1.7	1.6	0.82	1.8	0.8	3.4	3.2	1.9	18	5.75	20	29
	m ³ /h	0,0575	0,0493	0,0445	0,0311	0,0510	0,0227	0,096	0,0915	0,0535	0,5097	0,1628	0,5663	0,0283
Avg. Differential 100% Flow	in. w.c.	0.5	0.6	0.8	0.7	1.1	1.1	1.6	1.6	2.1	1.3	2.08	1.9	2.2
	mbar	1,1	1,5	1,9	1,6	2,6	2,6	4,0	4,0	5,2	3,1	5,18	4,7	5,5
Drive Rate CTR, CD	cf/rev	10	10	10	10	10	10	10	10	100	100	100	100	100
	m ³ /rev	0,1	0,1	0,1	0,1	0,1	1	1	1	1	1	1	1	1
Drive Rate TC, TD	cf/rev	100	100	100	100	100	100	100	100	1000	N/A	N/A	N/A	N/A
	m ³ /rev	1	1	1	1	1	10	10	10	10	N/A	N/A	N/A	N/A
Nominal Pipe Size	in.	2	2	2	2	2	3	3	4	4	6	4	6	8
	mm	50	50	50	50	50	80	80	100	100	150	100	150	200
Flange-to-Flange	in.	6-3/4	6-3/4	6-3/4	6-3/4	6-3/4	6-3/4	9-1/2	9-1/2	9-1/2	16	9-1/2	18	21
	mm	172	172	172	172	172	172	241	241	241	406,4	241	457,2	533,4
Flange Connection	ANSI	150#FF	150#FF	150#FF	150#FF	150#FF	150#FF	150#FF	150#FF	150#FF	150#FF	150FF	150#FF	150#FF
Oil Capacity: Side Inlet	oz	0.8	0.8	0.8	1.3	1.3	1.3	3	3	3	40	3.4	40	40
Oil Capacity: Top Inlet	Oz	3	3	3	7.6	7.6	7.6	21.9	21.9	21.9	154	21.8	154	154

Meter Sizing													
Model	8C175 ¹	11C175 ¹	15C175 ¹	2M175 ¹	3M175 ¹	5M175 ¹	7M175	11M175	16M175	23M175	23M232	38M175	56M175
Rating (acfh)	800	1100	1500	2000	3000	5000	7000	11000	16000	23000	23000	38000	56000
Meter Pressure (psig)	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	24.0	39.7	58.5
5	1.05	1.45	1.98	2.63	4.0	6.6	9.2	14.5	21.1	30.3	30.3	50.0	73.8
10	1.33	1.82	2.48	3.31	5.0	8.3	11.6	18.2	26.5	38.1	38.1	62.9	92.8
15	1.60	2.20	2.99	3.99	6.0	10.0	14.0	22.0	31.9	45.9	45.9	75.8	111.8
20	1.87	2.57	3.50	4.67	7.0	11.7	16.3	25.7	37.4	53.7	53.7	88.7	130.8
25	2.14	2.94	4.01	5.35	8.0	13.4	18.7	29.4	42.8	61.5	61.5	101.6	149.8
60	4.04	5.56	7.58	10.10	15.2	25.3	35.4	55.6	80.8	116.2	116.2	191.9	282.9
100	6.21	8.54	11.65	15.53	23.3	38.8	54.4	85.4	124.3	178.6	178.6	295.1	434.9
150	8.93	12.28	16.74	22.32	33.5	55.8	78.1	122.8	178.6	256.7	256.7	424.1	625.0
175	10.29	14.14	19.29	25.72	38.6	64.3	90.0	141.4	205.7	295.7	295.7	488.6	720.1
200	11.64	16.01	21.83	29.11	43.7	72.8						334.8	
232												384.7	

¹Also available in 200 PSIG Rating

To select proper meter size, use Minimum Operating Pressure and Maximum Instantaneous Hourly Flow Rate. Complete Data Sheets are available for each meter size. Request Data Sheet by meter mode

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