molbloc-L ranges with low pressure and downstream calibrations

FLUKE®
Calibration

	Gases		molbloc size and full scale flow (sccm @ 0 °C) Size 1E1	5E1	1E2	2E2	5E2	1E3	5E3	1E4	3E4	1E5
Inert	Nitrogen	N_2	10	50	100	200	500	1 000	5 000	10 000	30 000	100 000
	Argon	Ar	10	50	100	200	500	1 000	5 000	10 000	30 000	80 000
	Helium	He	10	50	100	200	500	1 000	5 000	10 000	30 000	100 000
	Sulfur hexafluoride	SF_6	10	50	100	200	500	1 000	**2 000 500**	**6 000 1 000**	**6 000 4 000**	–
	Xenon	Xe	10	40	80	150	400	800	**3 500 500**	8 000	**11 000 3 000**	**30 000 20 000**
Flammable	Butane	C_4H_{10}	20	100	**130 30**	**270 50**	**670 140**	2 300	**2 200 1 400**	**7 000 3 000**	–	–
	Ethane	C_2H_6	20	100	200	400	1000	2 000	**6 000 1 000**	**18 000 2 000**	**18 000 6 000**	**60 000 50 000**
	Ethylene	C_2H_4	16	80	160	320	800	1 600	**7 000 1 000**	16 000	**20 000 5 000**	**70 000 40 000**
	Hydrogen	H_2	20	100	200	400	1000	2 000	10 000	20 000	60 000	200 000
	Methane	CH_4	16	80	160	320	800	1 600	8 000	16 000	**40 000 5 000**	**120 000 40 000**
	Propane	C_3H_8	20	100	200	400	1000	2 000	**3 000 1 000**	**10 000 2 000**	**10 000 7 000**	–
Fluoro-carbons	Carbon tetrafluoride	CF_4	10	50	100	200	500	1 000	**4 000 600**	10 000	**12 000 3 000**	**36 000 25 000**
	Hexafluoroethene	C_2F_6	10	50	100	200	500	1 000	**2000 600**	**6000 1200**	**6 000 4 000**	–
	Trifluoromethane	CHF_3	10	50	100	200	500	1 000	**4000 600**	10000	**12 000 4 000**	**38 000 30 000**
Other	Air	Air	10	50	100	200	500	1 000	5000	10 000	30 000	100 000
	Carbon dioxide	CO_2	10	50	100	200	500	1 000	5 000	10 000	**20 000 4 000**	**60 000 30 000**
	Carbon monoxide	CO	10	50	100	200	500	1 000	5 000	10 000	30 000	100 000
	Nitrous oxide	N_2O	10	50	100	200	500	1 000	5 000	10 000	**20 000 4 000**	**60 000 30 000**
	Octafluorocyclobutane[1]	C_4F_8	15	**60 9**	**65 17**	**130 34**	**330 85**	**1 100 175**	**1 050 840**	**3 400 1 700**	–	–
	Oxygen	O_2	10	50	100	200	500	1 000	5 000	10 000	30 000	80 000

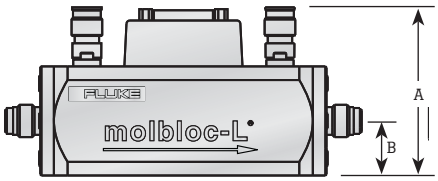
See page 2 for footnotes.

molbloc-L dimensions

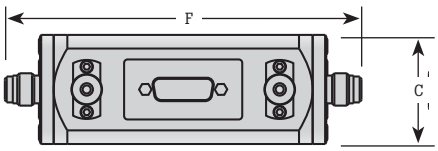
	5E3 and lower	1E4,3E4	1E5
A	58.50 mm (2.303 in)	74.50 mm (2.933 in)	74.50 mm (2.933 in)
B	16.00 mm (0.630 in)	24.00 mm (0.945 in)	24.00 mm (0.945 in)
C	32.00 mm (1.260 in) sq	48.00 mm (1.890 in) sq	48.00 mm (1.890 in) sq
D	68.84 mm (2.750 in)	80.00 mm (3.150 in)	80.00 mm (3.150 in)
E	19.06 mm (0.750 in)	28.00 mm (1.102 in)	28.00 mm (1.102 in)
F	124.00 mm (4.881 in)	157.00 mm (6.181 in)	164.00 mm (6.458 in)

All Except 1E5

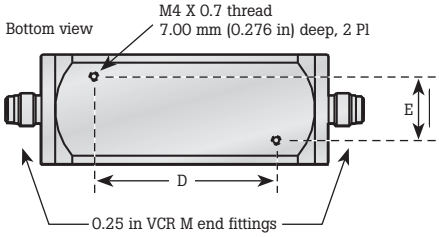
Side view



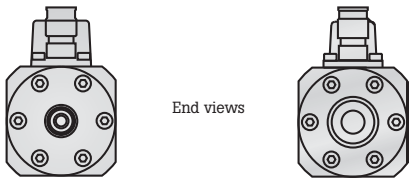
Top view



Bottom view

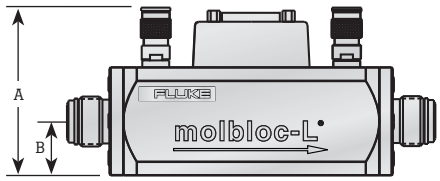


End views

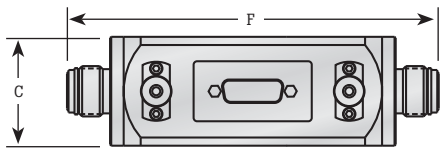


1E5

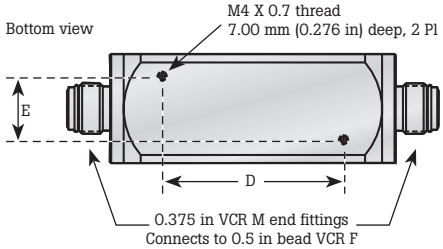
Side view



Top view



Bottom view



FLUKE®
Calibration

molbloc-L ranges with high pressure calibrations

	Gases		molbloc size and full scale flow (sccm @ 0 °C)									
			Size									
			1E1	5E1	1E2	2E2	5E2	1E3	5E3	1E4	3E4	1E5
Inert	Nitrogen	N_2	20	100	200	400	1000	2 000	10 000	20 000	**50 000 7 500**	N/A
	Argon	Ar	20	100	200	400	1 000	2 000	10 000	17 000	**45 000 6 000**	N/A
	Helium	He	20	100	200	400	1000	2 000	10 000	20 000	65 000	N/A
	Sulfur hexafluoride	SF_6	25	**100 15**	**120 30**	**250 50**	**600 150**	**2 000 300**	**2 000 1 400**	**6 200 2 800**	–	N/A N/A
	Xenon	Xe	20	100	150	350	650	1 700	**3 350 950**	**11 000 1 900**	**11 000 5 700**	N/A
Flammable	Butane[2]	C_4H_{10}	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Ethane	C_2H_6	40	200	**350 50**	**700 100**	**1 800 200**	4 000	**6 000 2 300**	**20 000 4 500**	**20 000 13 800**	N/A N/A
	Ethylene	C_2H_4	40	200	350	700	2 000	4 000	**7 000 2 000**	**22 000 4 000**	**22 000 12 700**	N/A
	Hydrogen	H_2	40	200	400	900	2 000	4 500	22 000	45 000	130 000	N/A
	Methane	CH_4	35	175	350	700	1 700	3 500	**13 000 2 000**	33 000	**42 000 12 000**	N/A
	Propane	C_3H_8	50	**200 25**	**200 50**	**400 100**	**1 000 250**	**3 500 500**	**3 500 2 600**	**11 000 5 400**	–	N/A
Fluoro-carbons	Carbon tetrafluoride	CF_4	20	100	200	400	1 000	2 000	**3 700 1 200**	**12 000 2 400**	**12 000 7 300**	N/A
	Hexafluoroethene	C_2F_6	25	**100 15**	**120 30**	**250 50**	**600 150**	**2 000 300**	**1 800 1 500**	**6 000 3 000**	–	N/A
	Trifluoromethane	CHF_3	25	125	**240 30**	**450 60**	**1 200 150**	2 500	**4 000 1 500**	**12 000 3 000**	**12 000 8 800**	N/A
Other	Air	Air	20	100	200	400	1 000	2 000	10 000	20 000	**50 000 7 200**	N/A
	Carbon dioxide	CO_2	25	125	250	500	1 250	2 500	**6 600 1 400**	**20 000 2 500**	**20 000 8 800**	N/A
	Carbon monoxide	CO	20	100	200	400	1 000	2 000	10 000	20 000	**40 000 7 500**	N/A
	Nitrous oxide	N_2O	25	125	250	500	1 250	2500	**11 000 1 500**	**20 000 3 000**	**20 000 9 000**	N/A
	Octafluorocyclobutane[2]	C_4F_8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Oxygen	O_2	20	100	200	400	1 000	2 000	10 000	20 000	**40 000 6 500**	N/A

A bold value indicates that the maximum flow is limited by the maximum Reynolds number value of 1 200 which is reached before the normal differential pressure range is reached. In that case, the second value gives the minimum flow for which measurement uncertainty (accuracy) is equal to the nominal uncertainty specification. Divide the second value by 10 when using molbox RFM microrange option.

Where there is no value in the field (–), this indicates that the maximum Reynolds number is reached before the differential pressure reaches 5 kPa (1 kPa in the case of the 1E5 molbloc), therefore calibration with that gas is not useful.

[1] Due to low vapor pressure, only downstream calibration type is available.
[2] The operating pressure range is greater than the vapor pressure value for this gas.

Calibration type	Operating pressure (absolute)
Downstream	Atmospheric pressure downstream of the molbloc
Low Pressure	200 to 325 kPa (29 to 47 psi absolute) upstream of the molbloc
High Pressure	325 to 525 kPa (47 to 76 psi absolute) upstream of the molbloc

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Fluke Calibration
PO Box 9090,
Everett, WA 98206 U.S.A.

Fluke Europe B.V.
PO Box 1186, 5602 BD
Eindhoven, The Netherlands

For more information call:
In the U.S.A. (877) 355-3225 or Fax (425) 446-5116
In Europe/M-East/Africa +31 (0) 40 2675 200 or Fax +31 (0) 40 2675 222
In Canada (800)-36-FLUKE or Fax (905) 890-6866
From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116
Web access: http://www.flukecal.com

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