

GasMultiBloc®

Dual modular safety shutoff valves

MBC-VV 1000/602(L)
MBC-VV 2500/602(L)

DUNGS®
Combustion Controls



Two normally closed automatic shutoff valves in one housing.

FM Approved

- FM 7400
- File No. 3046043

UL Listed

- UL 429
- File #MH16727

FM / UL Models

- MBC VV...1000/602L
- 1/2 in. NPT - 1 1/2 in. NPT
- MBC VV...2500/602L
- 1 in. NPT - 2 in. NPT

CSA Certified

- ANSI Z21.21 • CSA 6.5
- Marked C/I
- File # 157406

FM / CSA Models

- MBC VV...1000/602
- 1/2 in. NPT - 1 1/2 in. NPT
- MBC VV...2500/602
- 1 in. NPT - 2 in. NPT
- All models vibration tested acc. MIL-STD-810

Codes and Standards:

This product is intended for installations covered by but not limited to NFPA 37, UL 2200, ANSI Z83.4, ANSI Z83.18, CSA B149.1 and CSA B149.3.

DUNGS is an ISO 9001 manufacturing facility.



Description

The Multifunctional Control MBC-VV combines two automatic shutoff valves in one compact housing. Both valves can be wired independently or in parallel.

Internal profiles and compact design optimize flow and provide a low pressure drop. Two body styles reduce inventory.

Directly mounting the following accessories creates a compact valve train without additional piping:

- High and low gas pressure switches
- Valve proving system
- Test ports (Manometer)

Application

The MBC-VV is recommended for industrial and commercial applications using spark ignited, gas engines for standby and prime power generation.

The MBC-VV is suitable for natural gas, propane gas and other manufactured gases (e.g. syn gas). Suitable for up to 0.1 % by volume, dry H₂S.

MBC-VV Two normally closed automatic shutoff valves in one housing. V1 and V2 are fast opening, fast closing.

Specifications

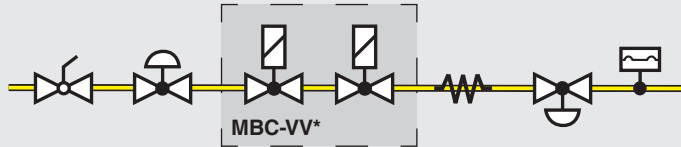
Body sizes	MBC-VV 1000	MBC-VV 2500
Pipe size / Thread	1/2" - 1 1/2" NPT	1" - 2" NPT
Max. operating pressure	5 PSI (360 mbar)	36 kPa
Max. body pressure	15 PSI (1000 mbar)	100 kPa
Max. close-off pressure	5 PSI (360 mbar)	36 kPa
Max. backpressure	2 PSI (150 mbar) 15 kPa	
Electrical ratings (+10 % to -15 %)	12 and 24 VDC, 120 VAC 50 - 60 Hz	
Power ratings	see power consumption table below	
Enclosure ratings	NEMA 12	
Electrical connection	DIN-connector with 1/2" NPT conduit adapter as standard for UL/FM Models. Order separately for CSA/FM Models.	
Operating time	100 % duty cycle	
Closing time	< 1 s	
Materials in contact with gas	Housing	Aluminium, Steel
	Sealings on valve seats	NBR-based rubber
Ambient temperature rating	0 °F to +140 °F; (-18 °C to +60 °C) UL/FM Version -40 °F to +140 °F; (-40 °C to +60 °C) CSA/FM Version	
Installation position	Safety shutoff valve from vertically upright to horizontal	
Test ports / Pressure switch mounting ports	G 1/8 ISO 228 ports available on both sides. Each side has one port upstream V1, one between V1 and V2, one downstream V2 and one on each flange.	
Gas filter (standard)	Replaceable integral gas filter (50 micron) at inlet.	

Power Consumption Table

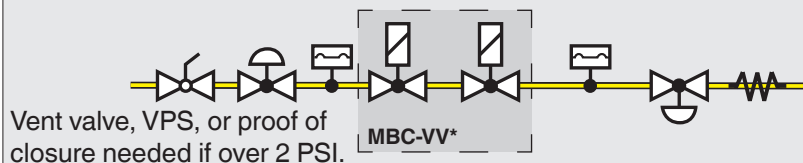
Valve Body Size	Rated voltage	Inrush P _{max.} [VA] for t = 3 s	Inrush current peak (A)	Holding P _{max.} [VA] Operation	Recommended power of supply transformer (VA)
MBC 1000	12 VDC	140	20.1	16	DC battery
MBC 2500		160	20.1	20	DC battery
MBC 1000	24 VDC	130	13.4	16	DC battery
MBC 2500		160	13.4	20	DC battery
MBC 1000	110/120 VAC	120	3.1	16	250
MBC 2500		180	3.0	20	300

MBC-VV Equipment Proposals for Gas Engines

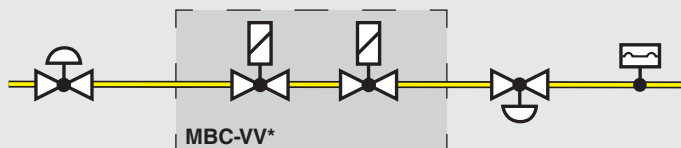
**Code for Stationary
Gas Engines using
Natural Gas or Propane
Standard: CSA B149.1-2015**



**Stationary Combustion
Engines using
Natural Gas or Propane
Standard: NFPA 37-2015**

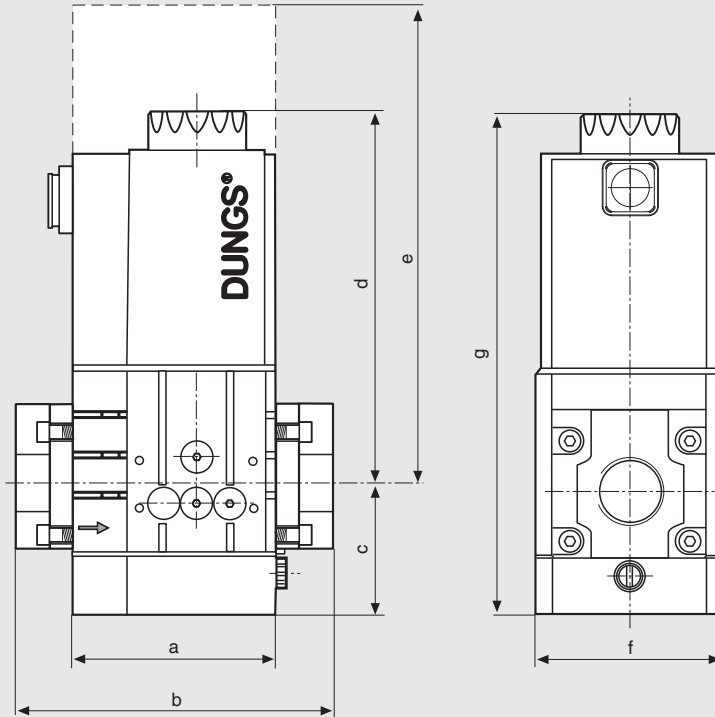


**Stationary Engine
Generator Assemblies
Standard: UL 2200-2012**



* Accessories are not contained in the Scope of Supply.

**Mounting dimensions inch [mm]
MBC-VV**



e = space requirement
for solenoid replacement

Type	DN Rp	Opening time	Dimensions [inch] Dimensions [mm]							Sole- noid No.	Switch- ing ops/h	Weight [lbs] [kg]
			a	b	c	d	e	f	g			
MBC-VV 1000	1/2 - 1 1/2	< 1 s	3.7	5.6	2.4	6.8	10.6	34.5	9.2	032/P	60	8.4
			95	143	61	173	269	877	234			3,8
MBC-VV 2500	1 - 2	< 1 s	5.0	6.9*	3.1	7.3	11.1	4.5	10.4	042/P	60	14.3
			126	176*	80	186	281	114	265			6,5

* MBC-VV 2500/602 with 1" or 1 1/4" flange: 6.9" / with 1 1/2" or 2" flange: 7.9"

Versions	12 VDC Order No.	24 VDC Order No.	110/120 VAC Order No.
MBC-VV 1000/602L (UL/FM)	257530	on request	252101
MBC-VV 2500/602L (UL/FM)	257531	on request	252102
MBC-VV 1000/602 (CSA/FM)	258443	258444	on request
MBC-VV 2500/602 (CSA/FM)	258445	258446	on request

Additional Accessories

VPS 504

Valve proving system (approved by some authorities having jurisdiction in lieu of vent valve and "proof of closure" e.g. FM, XL GAP).

GAO/GMH/GML A2

gas pressure switch

Valve proving systems and gas pressure switches not subject of vibration test acc. MIL-STD-810.

Adapters

- 1/4" NPT adapter (225047)
- 1/2" NPT pilot/vent adapter; Check flow requirements (225043).
- G 1/8" Test nipple w/ gasket (219008)
- Port 3 Pressure switch mounting adapter (214975)

Valve	Flange	NPT	O-ring and bolt kit P/N
MBC-VV 1000	1/2"	222371	224093
MBC-VV 1000	3/4"	222368	224093
MBC-VV 1000	1"	221999	224093
MBC-VV 1000	1 1/4"	231718	224093
MBC-VV 1000	1 1/2"	244021	224093
MBC-VV 2500	1"	222369	224094
MBC-VV 2500	1 1/4"	222370	224094
MBC-VV 2500	1 1/2"	222003	224094
MBC-VV 2500	2"	221997	224094

CSA/FM Models	Order No.
DIN-Connector	210319
Conduit adapter	240671



Flanges, DIN Connector (for CSA/FM Models) and system accessories must be ordered separately.

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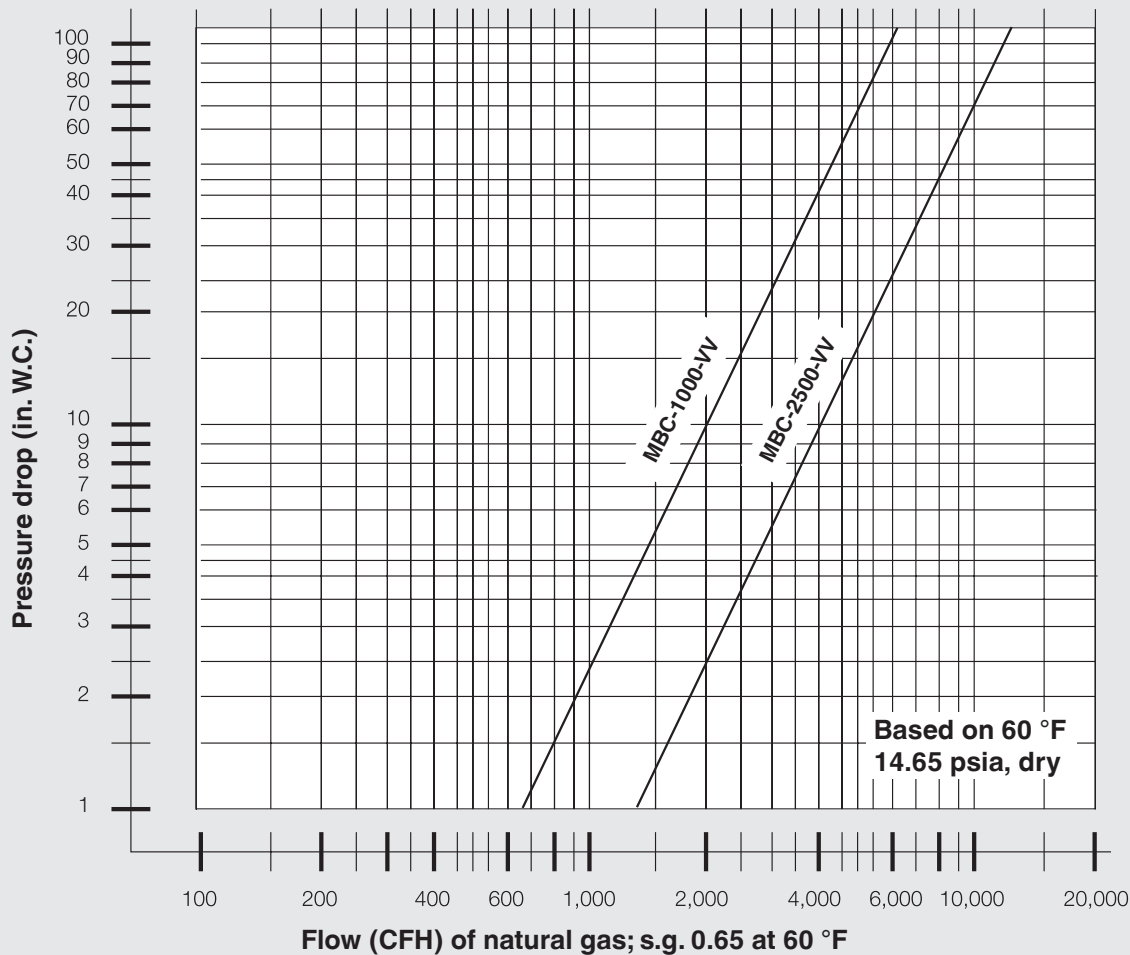
MBC-VV 1000/602(L)
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Volume flow pressure difference characteristics with microfilter.

MBC-VV 1000

MBC-VV 2500



$$\dot{V}_{\text{gas used}} = \dot{V}_{\text{Natural gas}} \times f$$

$$f = \sqrt{\frac{\text{Density of Natural gas}}{\text{Density of gas used}}}$$

Type of gas	Density [kg/m³]	s.g.	f
Natural gas	0.81	0.65	1.00
Butane	2.39	1.95	0.58
Propane	1.86	1.50	0.66
Air	1.24	1.00	0.80

We reserve the right to make any changes in the interest of technical progress.

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