

Heavy duty pressure controls Types MBC 5000 and MBC 5100



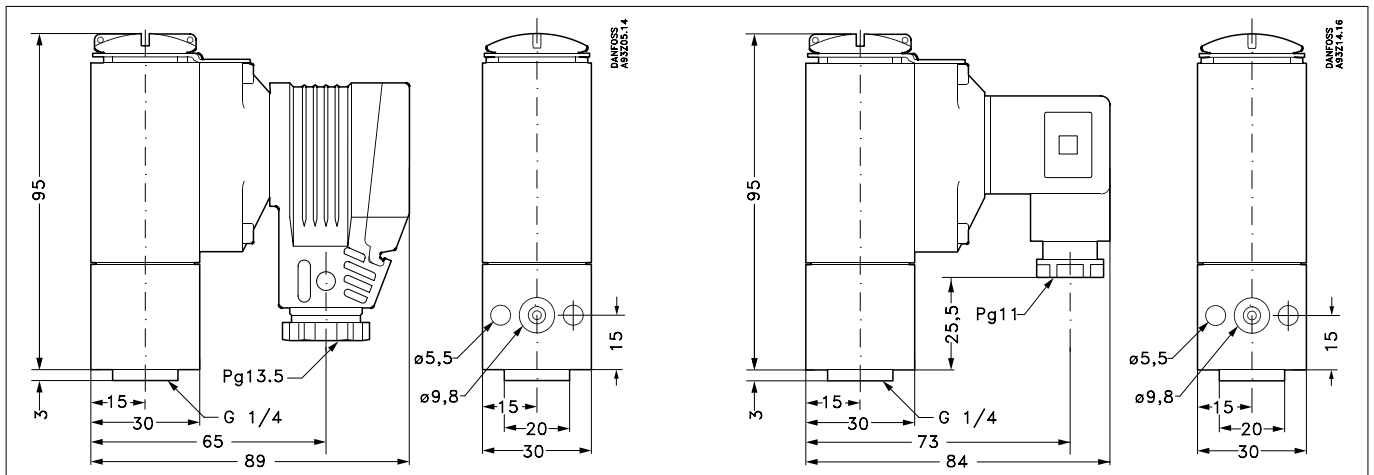
- Designed for use in severe industrial environments
- High vibration stability
- Part of the Danfoss block system, consisting of MBC pressure controls, MBS pressure transmitters and MBV test valves
- MBC 5100 with 10 ship approvals
- Low differential and high repeatability
- Optimal compact design for machine building purposes
- Intended for alarm indication, shut down, control and diagnostics in many applications - motors, gears, thrusters, pumps, filters, compressors etc.

Ship approvals MBC 5100

Lloyd's Register of Shipping
Germanischer Lloyd
RINA, Registro Italiano Navale
NKK, Nippon Kaiji Kyokai
Polski Rejestr Statków

DNV, Det Norske Veritas
BV, Bureau Veritas
American Bureau of Shipping
KRS, Korean Register of Shipping
MRS, Maritime Register of Shipping

Dimensions



Technical data

Performance

Repeatability	Bellows versions	± 0.2 % FS (typ.) ± 0.5 % FS (max.)
	Diaphragm versions	± 0.5 % FS (typ.) ± 1 % FS (max.)
Response time		< 4 ms
Max. switch frequency		10/min (0.16 Hz)
Differential		see page 3
Permissible operating pressure		see page 3
Burst pressure		see page 3
Life time	Mechanical	> 400,000 cycles
	Electrical at max. contact load	> 100,000 cycles

Electrical specifications

Switch		SPDT
Contact load	AC15	0.5 A, 250 V
	DC13	12 W, 125 V

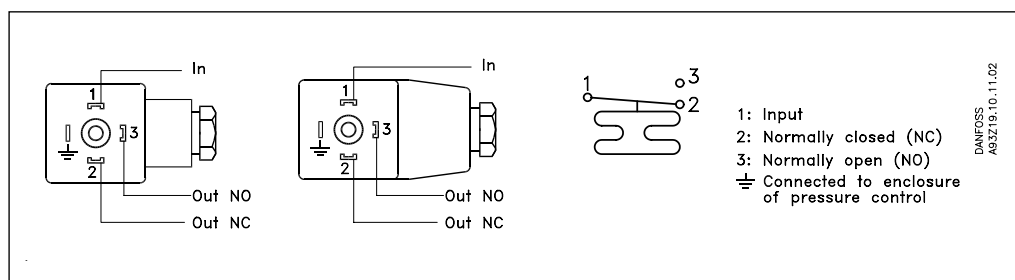
Environmental conditions

Temperature	Operation	Bellows versions Diaphragm versions	-40 to +85 °C -10 to +85 °C
	Transport	Bellows versions Diaphragm versions	-50 to +85 °C -50 to +85 °C
Enclosure			IP 65, IEC 529
Vibration stability	Sinusoidal	20 g, 25 Hz - 2 kHz	IEC 68-2-6
Shock resistance	Shock	50 g/6 ms, 500 g/1 ms	IEC 68-2-27
	Free fall		IEC 68-2-32

Mechanical characteristics

Pressure connection	Standard	G 1/4 female (ISO 228/1) or flange
	Option	see specification form, page 3
Electrical connection	Plug	DIN 43650, Pg 9 / Pg 11 / Pg 13.5
Wetted parts material	Housing	Anodized AlMgSi1
	Bellows	1.4306 (18/8)
	Diaphragm	Viton
	O-ring	NBR
Enclosure material	Housing	AlMgSi1
	Plug fixture	Glass filled polyamid, PA 6.6
Weight		0.4 kg

Electrical connection



How to choose

To achieve the best operating conditions for MBC pressure controls, it is recommended to apply the following rules of thumb:

- Choose
- the MBC type/types which meet the demands for the operating pressure
 - the MBC version with the lowest possible setting range
 - a diaphragm type, if pressure peaks and pulsations occur in the system (if possible)
 - bellows types, if very low differential is needed

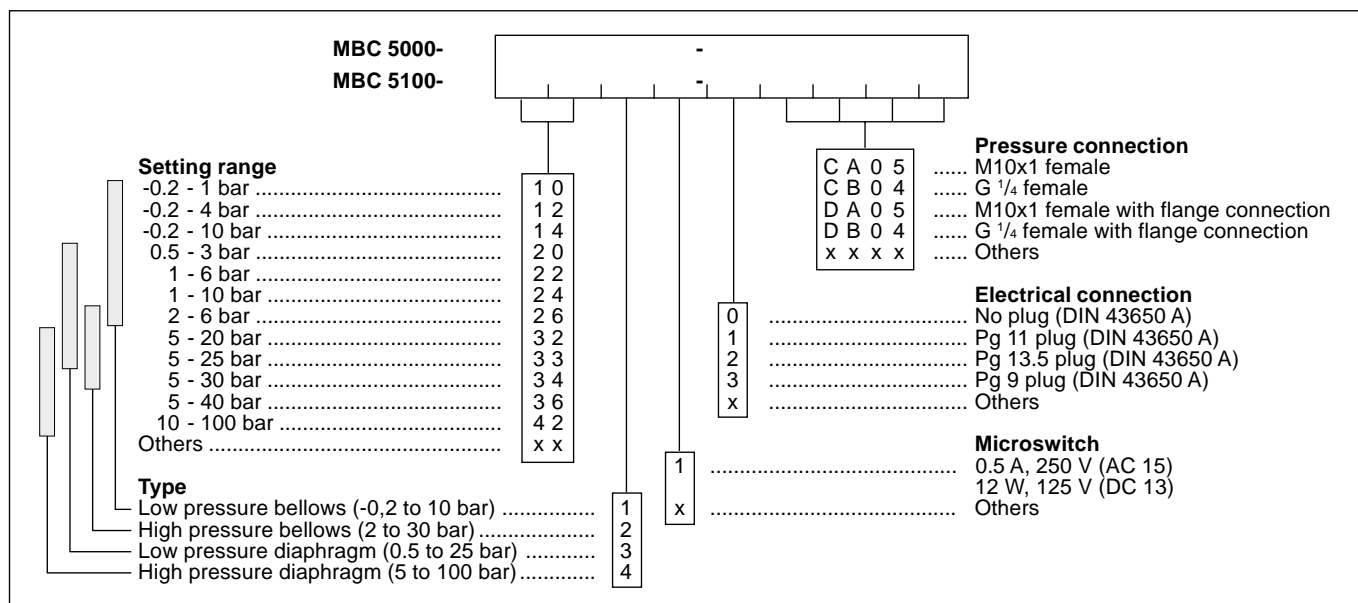
Ordering standard types

Type: LP = Low pressure HP = High Pressure	Setting range Pe [bar]	Fixed differential Pe [bar] (typ)	Permissible operating pressure Pe [bar]	Min. burst pressure Pe [bar]	Type designation MBC 5000-/ MBC 5100-	MBC 5100 Ship approved Code no.	MBC 5000 Standard Code no.
LP bellows	-0.2 to 1	0.15 to 0.18 ¹⁾	15	30	1011-1DB04	061B0005	061B2005
LP bellows	-0.2 to 4	0.15 to 0.20 ¹⁾	15	30	1211-1DB04	061B0004²⁾	061B2004
LP bellows	-0.2 to 10	0.15 to 0.30 ¹⁾	15	30	1411-1DB04	061B0002²⁾	061B2002
LP bellows	-0.2 to 10	0.15 to 0.30 ¹⁾	15	30	1411-1CB04	061B0000	061B2000
LP bellows	0.5 to 3	0.15 to 0.20 ¹⁾	15	30	2011-1DB04	061B0029	
LP bellows	1 to 6	0.18 to 0.25 ¹⁾	15	30	2211-1DB04	061B0007	
HP bellows	5 to 30	0.40 to 1.00 ¹⁾	45	90	3421-1DB04	061B0003²⁾	061B2003
LP diaphragm	0.5 to 3	0.20 to 0.30 ¹⁾	150	300	2031-1DB04	061B1017	
LP diaphragm	1 to 6	0.22 to 0.40 ¹⁾	150	300	2231-1DB04	061B1009	
LP diaphragm	1 to 10	0.22 to 0.55 ¹⁾	150	300	2431-1DB04	061B1004²⁾	061B3004
LP diaphragm	5 to 20	0.35 to 1.20 ¹⁾	150	300	3231-1DB04	061B1002²⁾	061B3002
LP diaphragm	5 to 25	0.35 to 1.30 ¹⁾	150	300	3331-1DB04	061B1024	
HP diaphragm	5 to 20	1.00 to 2.30 ¹⁾	150	300	3241-1DB04	061B1011	
HP diaphragm	5 to 30	1.00 to 3.00 ¹⁾	150	300	3441-1DB04	061B1010	
HP diaphragm	5 to 40	1.00 to 4.00 ¹⁾	150	300	3641-1DB04	061B1005²⁾	061B3005
HP diaphragm	10 to 100	1.70 to 6.00 ¹⁾	150	300	4241-1DB04	061B1003²⁾	061B3003

¹⁾ Lowest differential at min. setting range, highest differential at max. setting range

²⁾ Preferred versions

Ordering customized types



Adjustment

DANFOSS
A93Z10.14

Mechanical difference

One turn of the MBC setting-screw is approx. equal to 7% of the setting range

Mechanical connection

Thread

DANFOSS
A93Z184.10

Flange

DANFOSS
A93Z185.10

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