



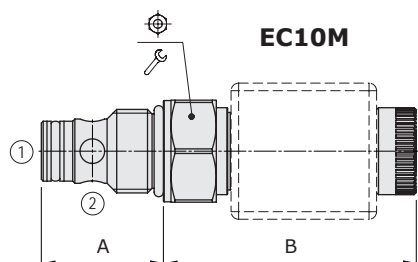
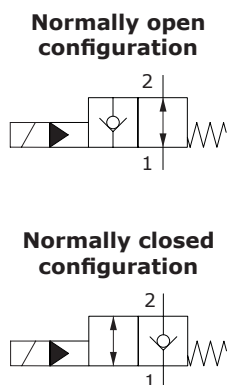
Type EC..M directional solenoid valves - 2 ways / 2 positions

- Pilot operated
- Poppet type
- Oil leakage free from port 2 to port 1
- Normally open and closed configurations
- From SAE08 to SAE16 cavities

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

	EC08M	EC10M	EC12M	EC16M
Nominal flow	40 l/min (10.5 US gpm)	70 l/min (18.5 US gpm)	150 l/min (40 US gpm)	150 l/min (40 US gpm)
Max. pressure	380 bar (5500 psi)			
Oil leakage	at 210 bar (3050 psi)	0.25 cm ³ /min (0.015 in ³ /min)	0.25 cm ³ /min (0.015 in ³ /min)	0.25 cm ³ /min (0.015 in ³ /min)
Fluid	mineral based oil			
Viscosity	10-200 cSt			
Max level of contamination	18/16/13 ISO4406			
Fluid temperature	with NBR seals with FPM seals	from -20°C (-4°F) to 80°C (176°F) from -20°C (-4°F) to 100°C (212°F)		
Environmental temp. for working conditions	from -20°C (-4°F) to 50°C (122°F)			
Cavity	SAE 8/2	SAE 10/2	SAE 12/2	SAE 16/2
Coil type*	BER			
Nominal voltages	12 VDC - 24 VDC ± 10%			
Power rating	22.8 W (12 VDC) - 22.5 W (24 VDC)			
Weight	0.135 kg (0.30 lb)	0.170 kg (0.37 lb)	0.230 kg (0.51 lb)	0.315 kg (0.69 lb)

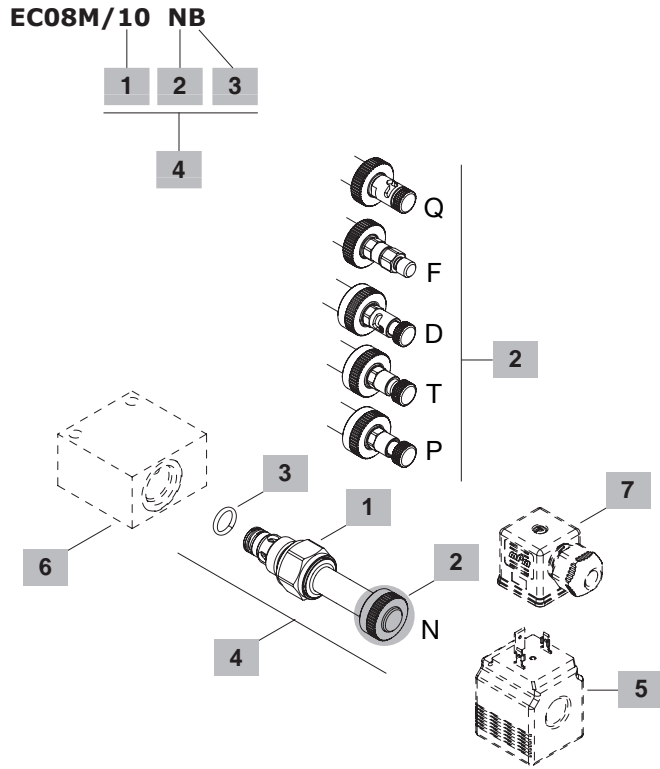
NOTE - For different conditions, please contact Walvoil Sales Dpt. - *For coils further features see from page 187.



Valve type	A		B				Nm	lbft
	mm	in	mm	in				
EC08M/	10NB	67.2	2.64	28	1.10	24	30	22
	20NB	63.3	2.49	28	1.10	24	30	22
EC10M/	10NB	66.9	2.63	32.3	1.27	27	50	37
	20NB	63	2.48	32.3	1.27	27	50	37
EC12M/	10NB	61.1	2.40	45	1.77	32	80	59
	20NB	57.2	2.25	45	1.77	32	80	59
EC16M/	10NB	61.2	2.41	46	1.81	38	80	59
	20NB	57.3	2.26	46	1.81	38	80	59

For dimensions with different type of emergency see page 192

Ordering codes and description composition



1 Spool

TYPE	DESCRIPTION
1	Normally open configuration
2	Normally closed configuration

2 Emergency

TYPE	DESCRIPTION
N	Without emergency
P	Push button type (N.O.)
T	Screw type
D	Push type with detent (N.O.)
F	Pull button type (N.C.)
Q	Pull type with detent (N.C.)

3 Seals

TYPE	DESCRIPTION
B	NBR (Buna) o-ring seals, std configuration
V	FPM (Viton) o-ring seals, contact Sales Dept.

4 Cartridges

TYPE	CODE	DESCRIPTION
SAE cavity 8/2		
EC08M/10NB	0EC08002031	Normally open (N.O.) without emergency
EC08M/10PB	0EC08002033	(N.O.) push button emergency
EC08M/10TB	0EC08002034	(N.O.) screw type emergency
EC08M/10DB	0EC08002035	(N.O.) push type with detent emergency
EC08M/20NB	0EC08002032	Normally closed configuration (N.C.) without emergency
EC08M/20FB	0EC08002036	(N.C.) pull button emergency
EC08M/20TB	0EC08002037	(N.C.) screw type emergency
EC08M/20QB	0EC08002038	(N.C.) pull type with detent emergency

SAE cavity 10/2

EC10M/10NB	0EC10002012	Normally open configuration (N.O.) without emergency
EC10M/10PB	0EC10002014	(N.O.) push button emergency
EC10M/10TB	0EC10002015	(N.O.) screw type emergency
EC10M/10DB	0EC10002016	(N.O.) push type with detent emergency
EC10M/20NB	0EC10002013	Normally closed configuration (N.C.) without emergency
EC10M/20FB	0EC10002017	(N.C.) pull button emergency
EC10M/20TB	0EC10002018	(N.C.) screw type emergency
EC10M/20QB	0EC10002019	(N.C.) pull type with detent emergency

SAE cavity 12/2

EC12M/10NB	0EC12002007	Normally open configuration (N.O.) without emergency
EC12M/10PB	0EC12002009	(N.O.) push button emergency
EC12M/10TB	0EC12002010	(N.O.) screw type emergency
EC12M/10DB	0EC12002011	(N.O.) push type with detent emergency
EC12M/20NB	0EC12002008	Normally closed configuration (N.C.) without emergency
EC12M/20FB	0EC12002012	(N.C.) pull button emergency
EC12M/20TB	0EC12002013	(N.C.) screw type emergency
EC12M/20QB	0EC12002014	(N.C.) pull type with detent emergency

SAE cavity 16/2

EC16M/10NB	0EC16002020	Normally open configuration (N.O.) without emergency
EC16M/10PB	0EC16002022	(N.O.) push button emergency
EC16M/10TB	0EC16002023	(N.O.) screw type emergency
EC16M/10DB	0EC16002024	(N.O.) push type with detent emergency
EC16M/20NB	0EC16002021	Normally closed configuration (N.C.) without emergency
EC16M/20FB	0EC16002025	(N.C.) pull button emergency
EC16M/20TB	0EC16002026	(N.C.) screw type emergency
EC16M/20QB	0EC16002027	(N.C.) pull type with detent emergency

5 Coils

TYPE	CODE	DESCRIPTION
BER 12VDC	4SLE001200	12VDC-ISO4400 coil

For complete coils list see from page 186

6 Valve body

TYPE	CODE	DESCRIPTION
SAE 08/2-SAE8	3CC0820K11	Aluminium body for cavity 08 valve, SAE8 std thread
SAE 10/2-SAE8	3CC1020K11	Aluminium body for cavity 10 valve, SAE8 std thread
SAE 12/2-SAE10	3CC1220L11	Aluminium body for cavity 12 valve, SAE10 std thread
SAE 16/2-SAE12	3CC1620M11	Aluminium body for cavity 16 valve, SAE12 std thread

Note: aluminium body can stand up to 210 bar (3050 psi)
For steel bodies or different threading see page 194

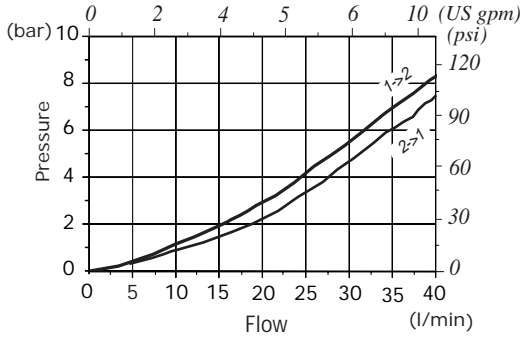
7 Connector

TYPE	CODE	DESCRIPTION
ISO4400	4CN1009995	Connector

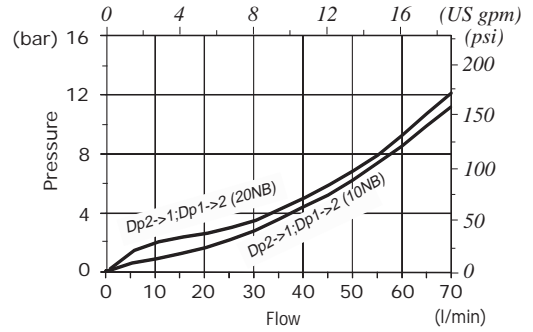
For complete connectors list see from page 186

Rating diagrams

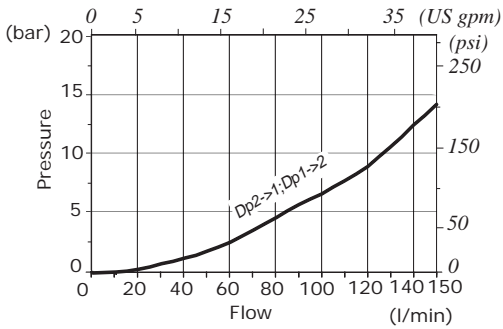
EC08M/10NB - EC08M/20N
pressure drop vs. flow



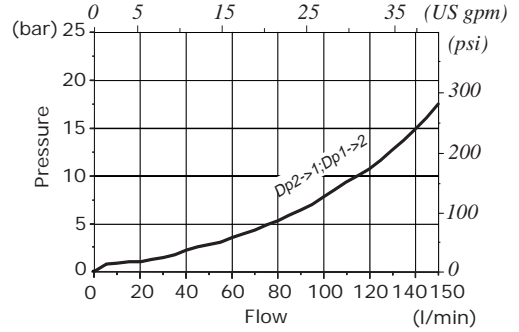
EC10M/10NB - EC10M/20NB
pressure drop vs. flow



EC12M/10NB - EC16M/10NB
pressure drop vs. flow



EC12M/20NB - EC16M/20NB
pressure drop vs. flow





Type EF..M directional solenoid valves - 2 ways / 2 positions

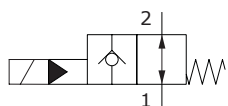
- Pilot operated
- Poppet type
- Oil leakage free from port 1 to port 2
- Normally open and closed configurations
- From SAE08 to SAE16 cavities

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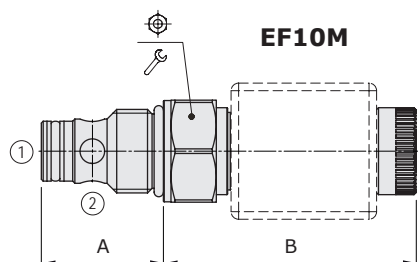
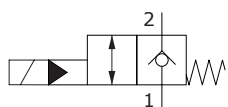
	EF08M	EF10M	EF12M	EF16M
Nominal flow	40 l/min (10.5 US gpm)	70 l/min (18.5 US gpm)	150 l/min (40 US gpm)	150 l/min (40 US gpm)
Max. pressure	380 bar (5500 psi)			
Oil leakage	at 210 bar (3050 psi)	0.50 cm ³ /min (0.030 in ³ /min)	0.50 cm ³ /min (0.030 in ³ /min)	0.50 cm ³ /min (0.030 in ³ /min)
Fluid	mineral based oil			
Viscosity	10-200 cSt			
Max level of contamination	18/16/13 ISO4406			
Fluid temperature	with NBR seals with FPM seals	from -20°C (-4°F) to 80°C (176°F) from -20°C (-4°F) to 100°C (212°F)		
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Cavity	SAE 8/2	SAE 10/2	SAE 12/2	SAE 16/2
Coil type*	BER			
Nominal voltages	12 VDC - 24 VDC ± 10%			
Power rating	22.8 W (12 VDC) - 22.5 W (24 VDC)			
Weight	0.135 kg (0.30 lb)	0.170 kg (0.37 lb)	0.230 kg (0.51 lb)	0.315 kg (0.69 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt. - *For coils further features see from page 187.

Normally open configuration



Normally closed configuration



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	mm	in	mm	in				
EF08M/	10NB	67.2	2.64	28	1.10	24	30	22
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	20NB	57.3	2.26	46	1.81	38	80	59

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