



# SAE cavity cartridges



## EC..M type directional solenoid valves - 2 ways / 2 positions

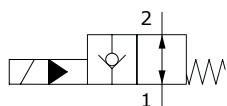
- Pilot operated
- Poppet type
- Oil leakage free from port 2 to port 1
- Normally open and closed configurations
- From SAE08 to SAE16 cavities

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

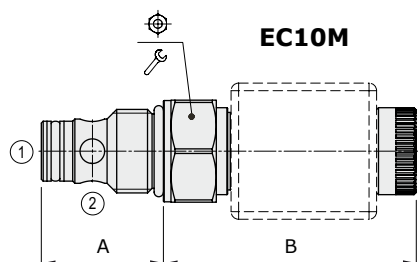
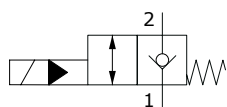
	EC08M	EC10M	EC12M	EC16M
Nominal flow	40 l/min (10.5 US gpm)	70 l/min (18.5 US gpm)	150 l/min (40 US gpm)	150 l/min (40 US gpm)
Max. pressure	380 bar (5500 psi)			
Oil leakage	at 210 bar (3050 psi)	0.25 cm <sup>3</sup> /min (0.015 in <sup>3</sup> /min)	0.25 cm <sup>3</sup> /min (0.015 in <sup>3</sup> /min)	0.25 cm <sup>3</sup> /min (0.015 in <sup>3</sup> /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 190.

### Normally open configuration



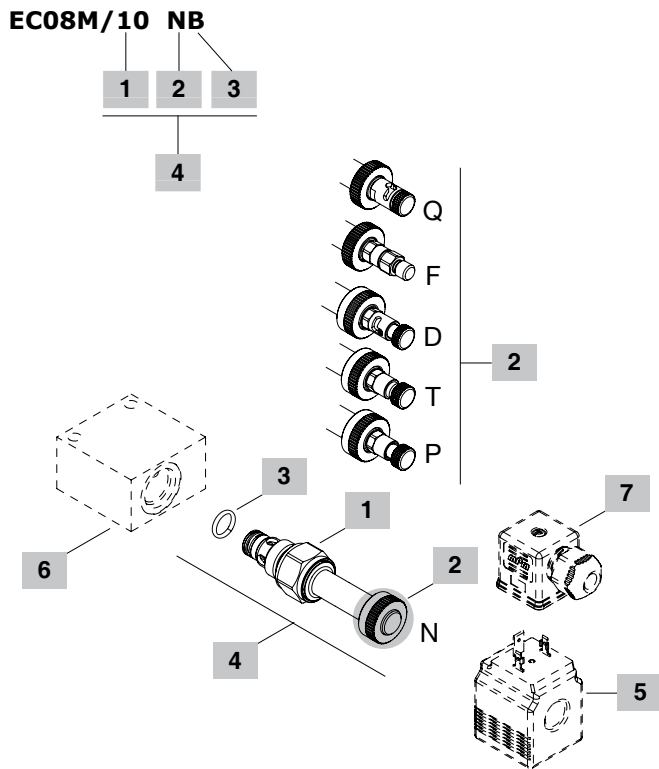
### Normally closed configuration



Valve type	A		B				Nm	lbf·ft
	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 197

### Ordering codes and description composition



#### 1 Spool

TYPE	DESCRIPTION
<b>1</b>	Normally open configuration
<b>2</b>	Normally closed configuration

#### 2 Emergency

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

#### 3 Seals

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

#### 4 Cartridges

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

#### SAE cavity 10/2

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

#### SAE cavity 12/2

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

#### SAE cavity 16/2

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

#### 5 Coils

TYPE	CODE	DESCRIPTION
<b>BER 12VDC</b>	4SLE001200	12VDC-ISO4400 coil

For complete coils list see from page 190

#### 6 Valve body

TYPE	CODE	DESCRIPTION
<b>SAE 08/2-G 3/8</b>	3CC0820C11	Aluminium body for cavity 08 valve, G3/8 std thread
<b>SAE 10/2-G 3/8</b>	3CC1020C11	Aluminium body for cavity 10 valve, G3/8 std thread
<b>SAE 12/2-G 1/2</b>	3CC1220D11	Aluminium body for cavity 12 valve, G1/2 std thread
<b>SAE 16/2-G 3/4</b>	3CC1620E11	Aluminium body for cavity 16 valve, G3/4 std thread

Note: aluminium body can stand up to 210 bar (3050 psi)  
For steel bodies or different threading see from page 199

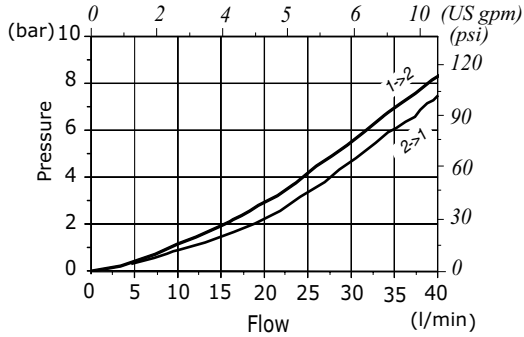
#### 7 Connector

TYPE	CODE	DESCRIPTION
<b>ISO4400</b>	4CN1009995	Connector

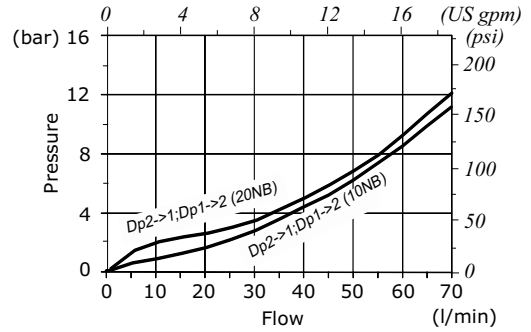
For complete connectors list see from page 190

Rating diagrams

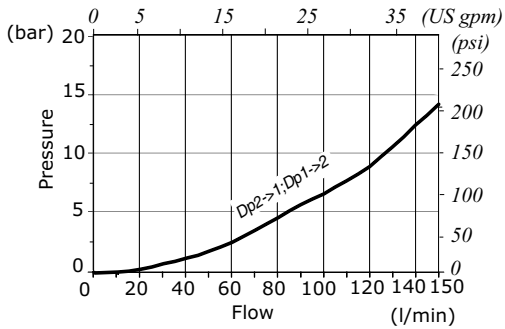
**EC08M/10NB - EC08M/20N**  
pressure drop vs. flow



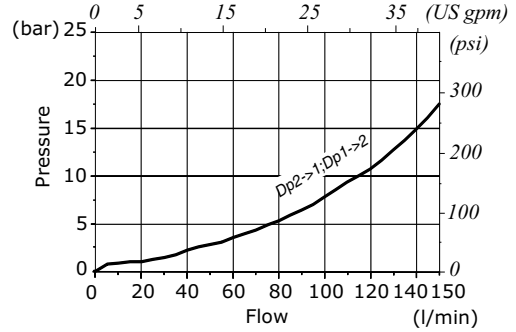
**EC10M/10NB - EC10M/20NB**  
pressure drop vs. flow



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



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



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