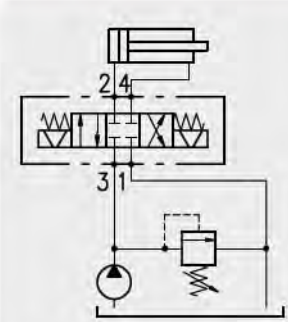
Operation

When the solenoid is deenergized the valve is with all the ways (1,2,3,4) closed.
When the solenoids are alternatively energized the valve provides for free oil flow from either 3 to 2 and 4 to 1 or from 3 to 4 and 2 to 1.



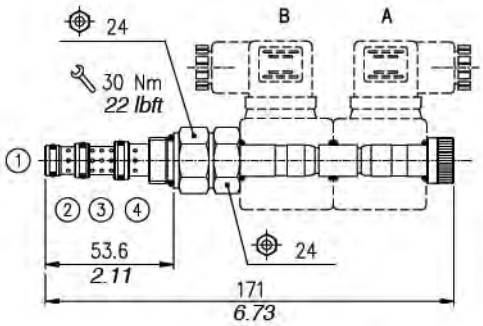
Performance

Cartridges

Type	Maximum flow		Maximum pressure		Solenoids	*Oil leaks from 1 to 2	Weight		Cavities and tools
	l/min	*US gpm*	bar	*psi*			kg	*lb*	
ET08C/2	8	*2.1*	210	*3050*	BE/EC 36 see page 157	40 cm³/min. - *2.44 in³/min* at 210 bar - *3050 psi*	0,320	*0.70*	See cavity SAE 8-4 page 173
ET08F/2	10	*2.6*			BC 16 see page 160	10 cm³/min. - *0.61 in³/min* at 210 bar - *3050 psi*	0,320	*0.70*	
ET08M/2	18	*4.7*			BE/EC 36 see page 157	40 cm³/min. - *2.44 in³/min* at 210 bar - *3050 psi*	0,250	*0.55*	
ET10M/2	40	*10.5*			BC 16 see page 160	80 cm³/min. - *4.88 in³/min* at 210 bar - *3050 psi*	0,50	*1.10*	See cavity SAE 10-4 page 173
ET10A/2	30	*8*			BIN 19 see page 158	120 cm³/min. - *7.32 in³/min* at 210 bar - *3050 psi*	0,310	*0.68*	
ET12A/2	40	*10.5*			BIN 22 see page 159	60 cm³/min. - *3.66 in³/min* at 210 bar - *3050 psi*	0,720	*1.59*	See cavity SAE 12-4 page 173
ET16A/2	75	*20*			BIN 22 see page 159	100 cm³/min. - *6.1 in³/min* at 210 bar - *3050 psi*	0,92	*2.03*	See cavity SAE 16-4 page 173
ET10B/2	20	*5.3*			BC 16 see page 10	20 cm³/min. - *1.22 in³/min* at 210 bar - *3050 psi*	0,300	*0.66*	See cavity SAE 10-4 page 173

*with oil viscosity of 46 cst

Dimensions and hydraulic circuit



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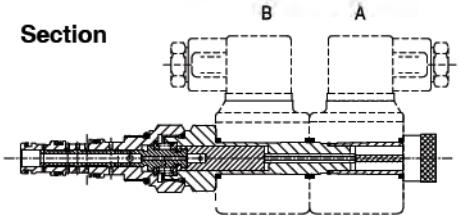
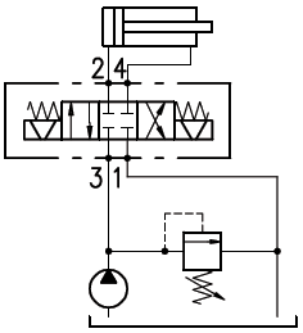
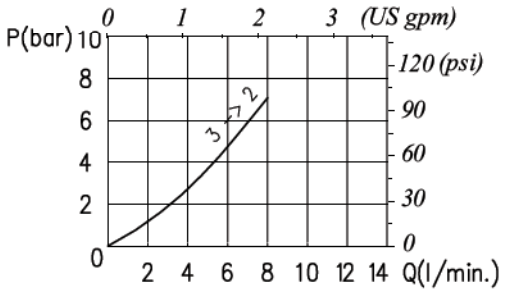
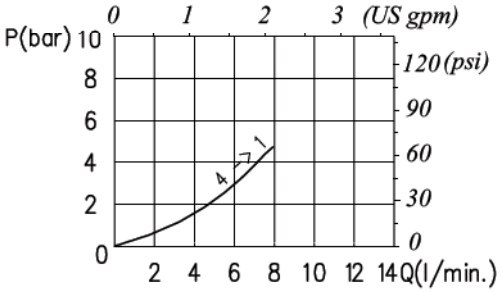


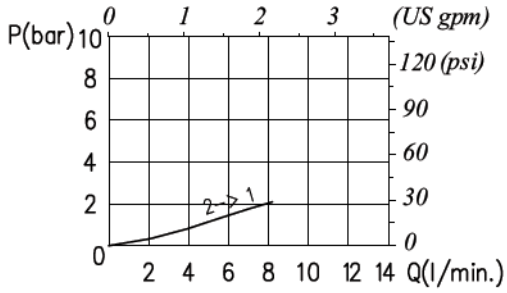


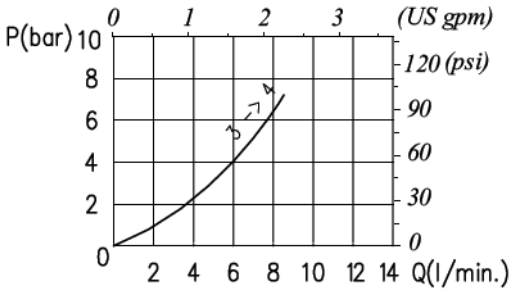
Rating diagrams

Typical pressure drop vs. flow characteristics









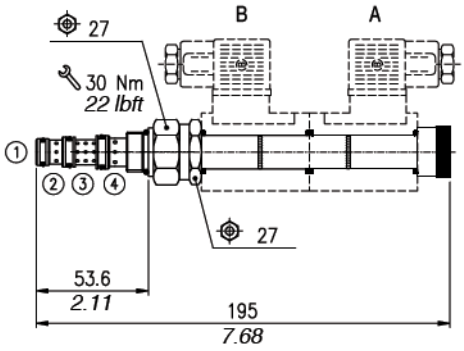
Order code

ET 08C / 20 N□

Seals

B) Buna
V) Viton

Dimensions and hydraulic circuit



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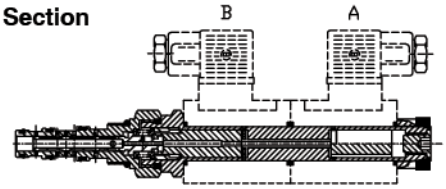
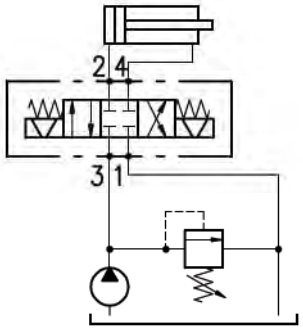
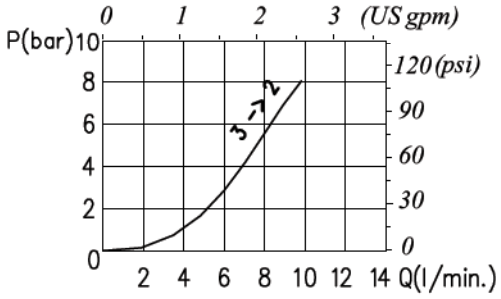
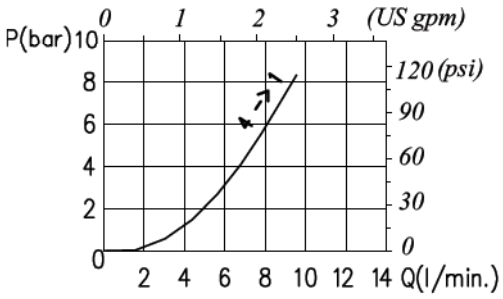
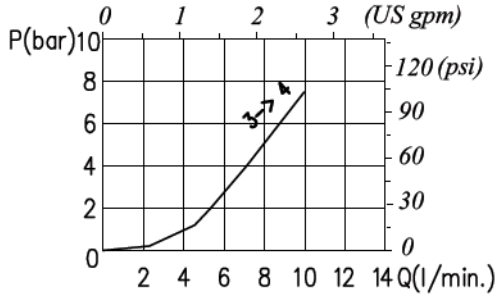


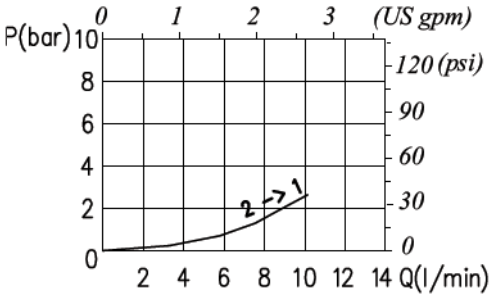


Typical pressure drop vs. flow characteristics









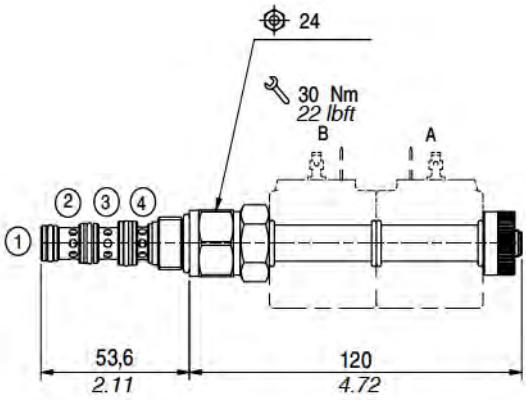
Order code

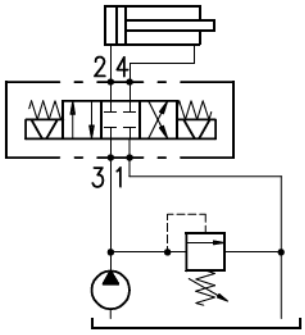
ET 08F / 20 N□

Seals

B)Buna
V) Viton

Dimensions and hydraulic circuit





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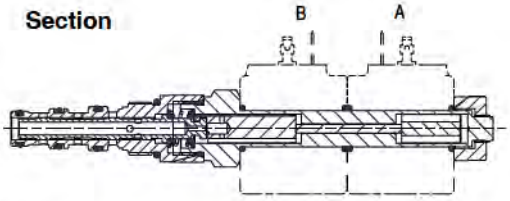
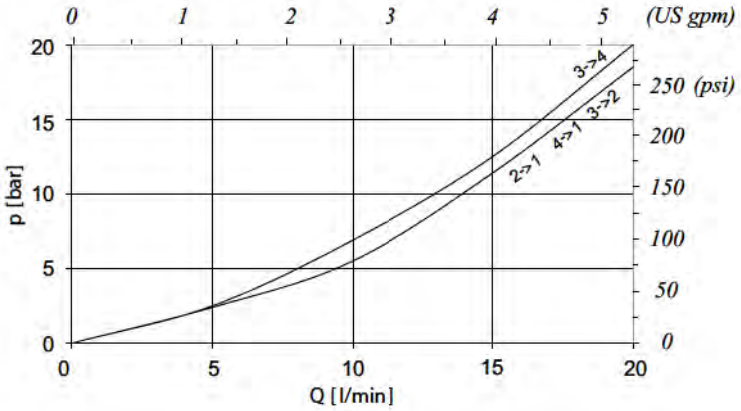


Rating diagrams

Typical pressure drop vs. flow characteristics



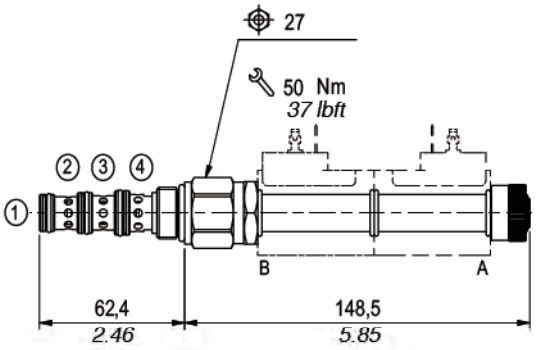
Order code

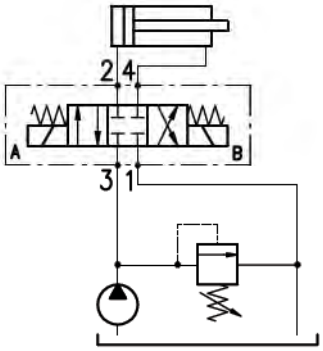
ET 08M / 20 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
D) Push-pull with mechanical detent

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit





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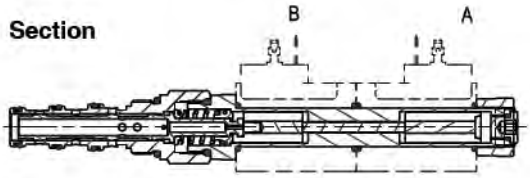
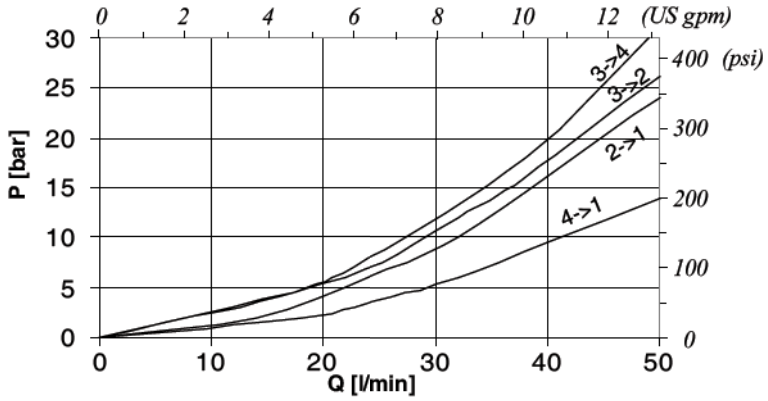


Rating diagrams

Typical pressure drop vs. flow characteristics



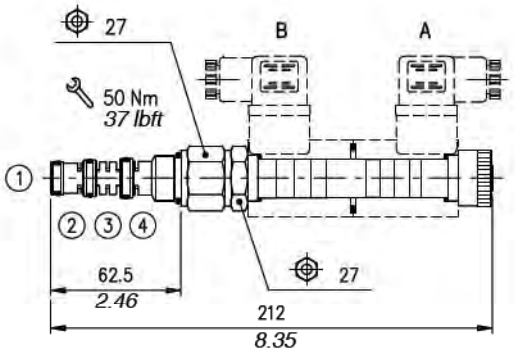
Order code

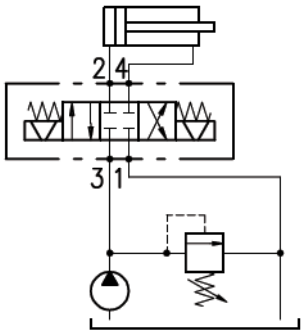
ET 10M / 20 □ - □

Manual override option
(see page 163)
- **N)** No emergency (standard)
- **D)** Push-pull with mechanical detent
- **P)** Button
- **E)** Push-pull with spring detent

Seals
- **B)** Buna
- **V)** Viton

Dimensions and hydraulic circuit





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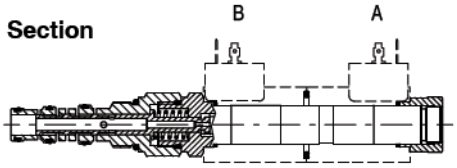
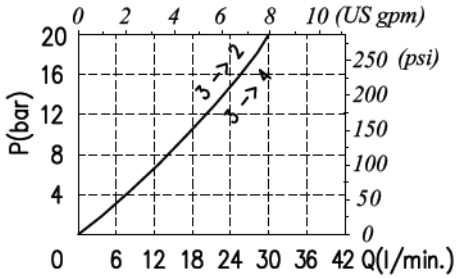
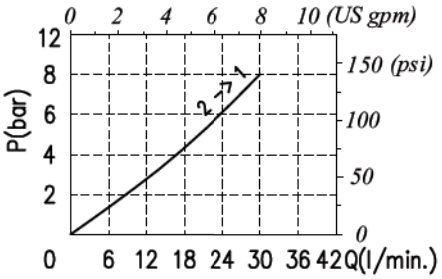
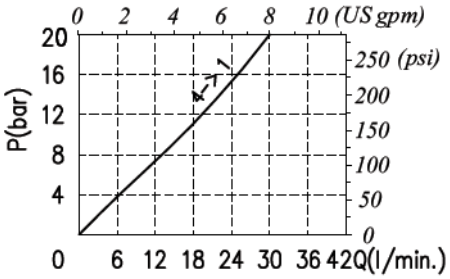


Rating diagrams

Typical pressure drop vs. flow characteristics





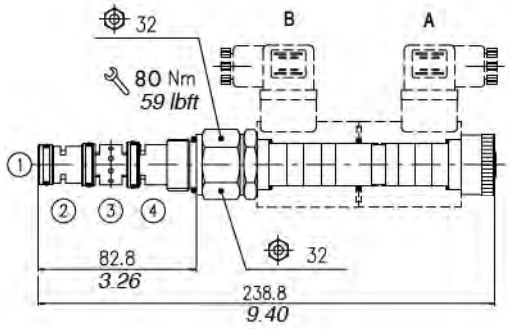


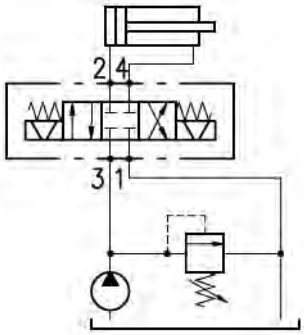
Order code

ET 10A / 20 □ - □

Manual override option (see page 163)	Seals
N) No emergency (standard)	**B)** Buna
P) Button	**V)** Viton

Dimensions and hydraulic circuit





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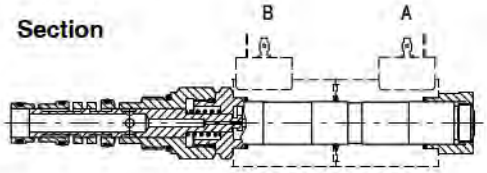
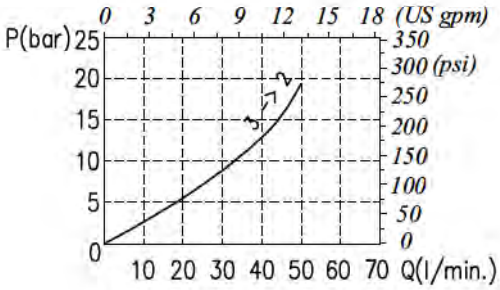
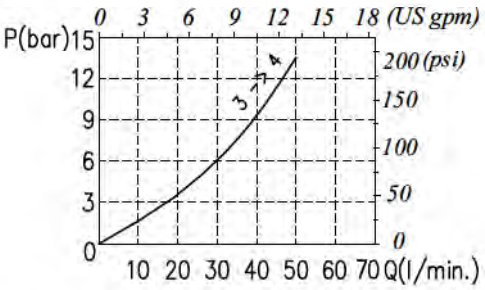
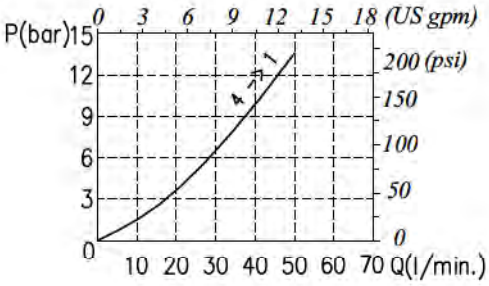
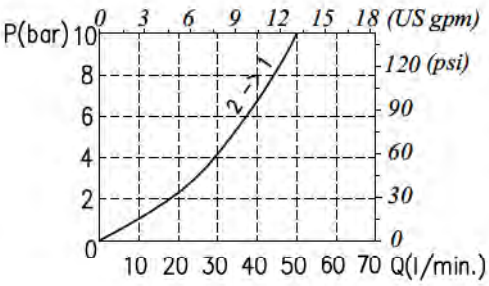


Typical pressure drop vs. flow characteristics









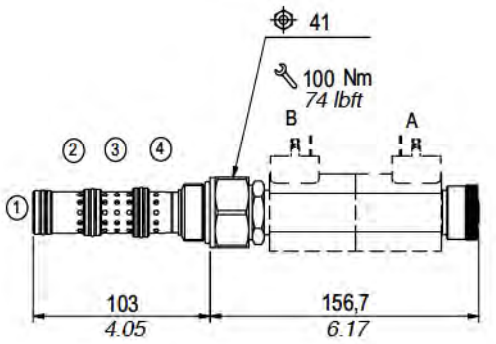
Order code

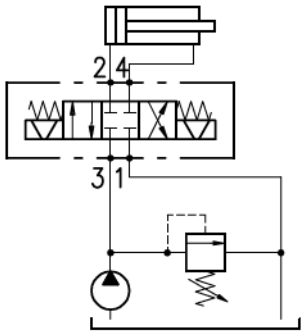
ET 12A / 20 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit





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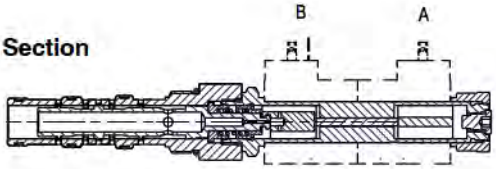
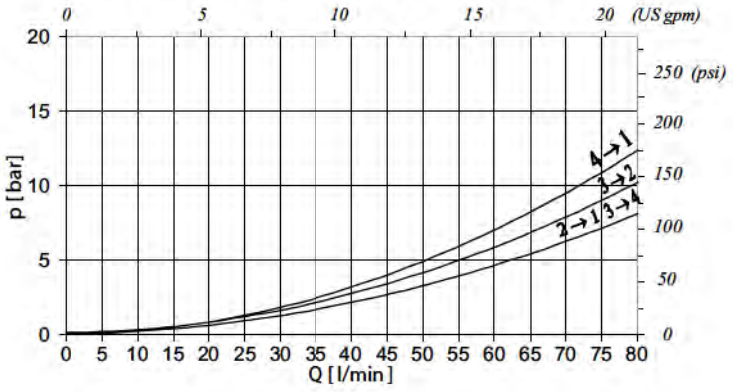


Rating diagrams

Typical pressure drop vs. flow characteristics



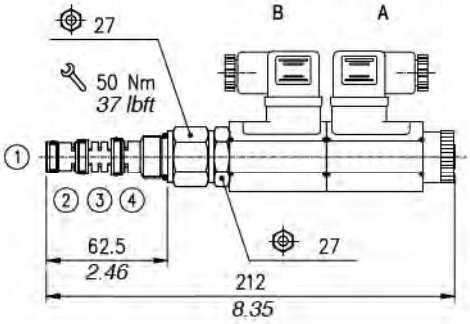
Order code

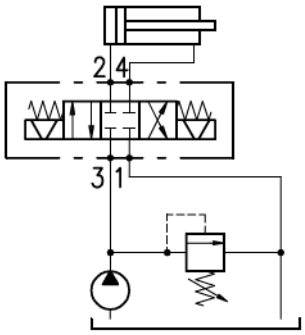
ET 16A / 20 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit





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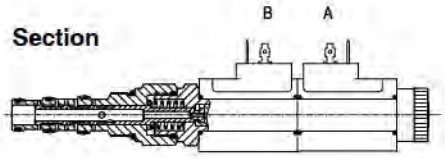
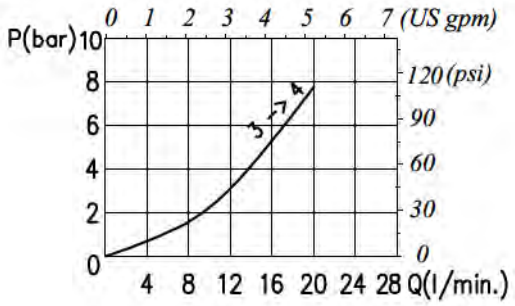
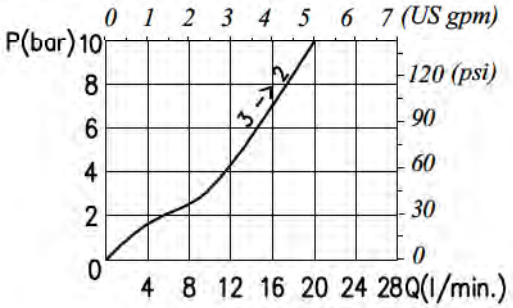
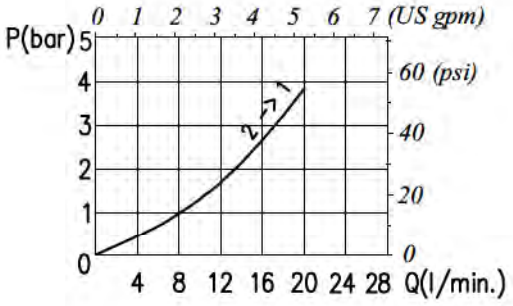
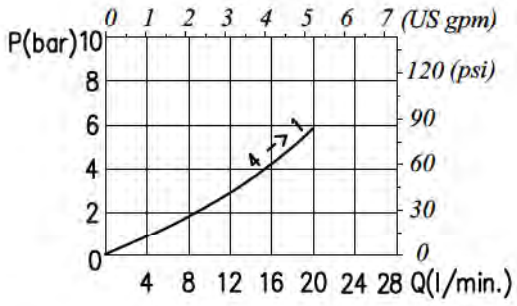


Typical pressure drop vs. flow characteristics









Order code

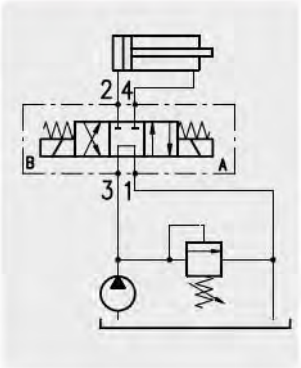
ET 10B / 20 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton

Operation

When the solenoid is deenergized free oil flow is provided from 3 to 1 while 2 and 4 keep shut.
When the solenoids are alternatively energized the valve provides for free oil flow from either 3 to 2 and 4 to 1 or from 3 to 4 and 2 to 1.



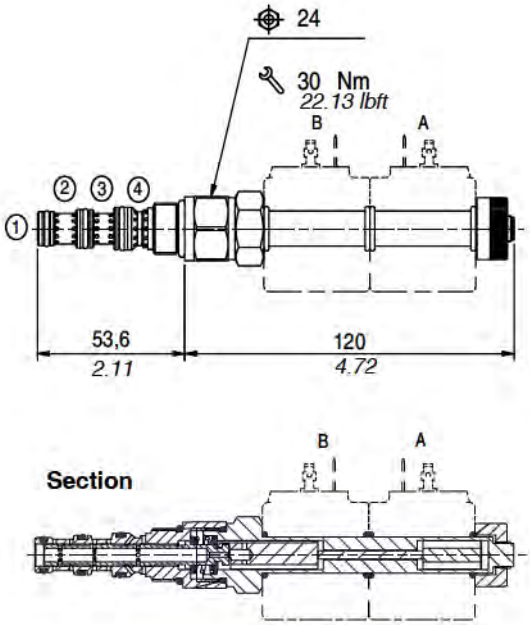
Performance

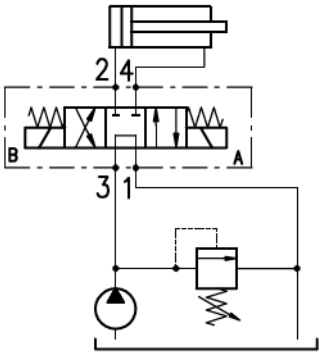
Cartridges

Type	Maximum flow		Maximum pressure		Solenoids	*Oil leaks from 1 to 2	Weight		Cavities and tools
	l/min	*US gpm*	bar	*psi*			kg	*lb*	
ET08M/3	15	*4*	210	*3050*	BE/EC 36 see page 157	40 cm³/min. - *2.44 in³/min* at 210 bar - *3050 psi*	0,250	*55.11*	see cavity SAE 8-4 page 173
ET10A/3	30	*7.9*			BIN 19 see page 158	120 cm³/min. - *7.32 in³/min* at 210 bar - *3050 psi*	0,310	*0.68*	see cavity SAE 10-4 page 173
ET12A/3	40	*10.5*			BIN 22 see page 159	60 cm³/min. - *3.66 in³/min* at 210 bar - *3050 psi*	0,720	*1.59*	see cavity SAE 12-4 page 173
ET10B/3	20	*5.3*			BC 16 see page 160	20 cm³/min. - *1.22 in³/min* at 210 bar - *3050 psi*	0,300	*0.66*	see page SAE 10-4 page 173
ET10M/3**	33	*8.7*				80 cm³/min. - *4.88 in³/min* at 210 bar - *3050 psi*	0,5	*1.10*	

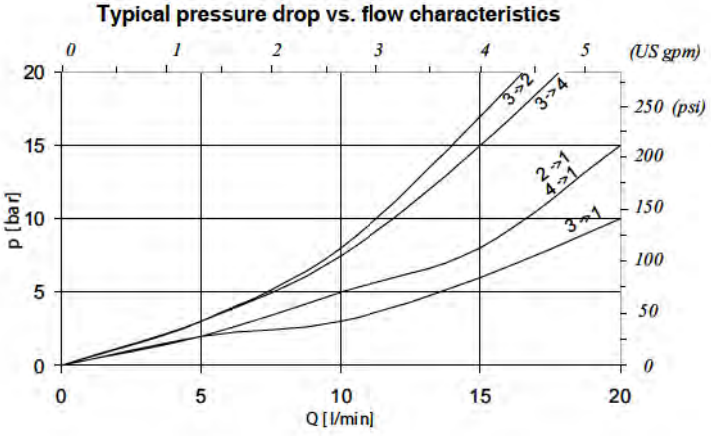
*with oil viscosity of 46 cst
**remove the air inside unscrewing the plug

Dimensions and hydraulic circuit





Rating diagrams



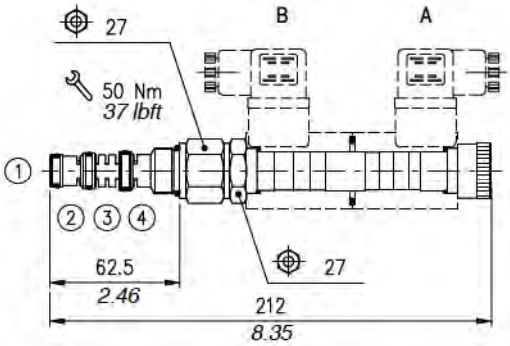
Order code

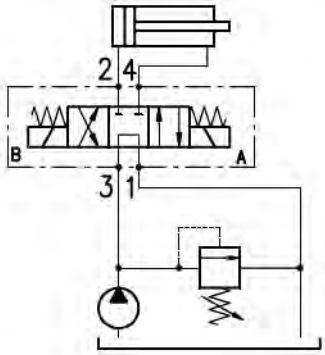
ET 08M / 30 □ - □

Manual override option
(see page 163)
N) No emergency
D) Push-pull with mechanical detent

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit





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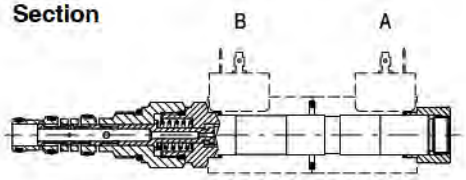
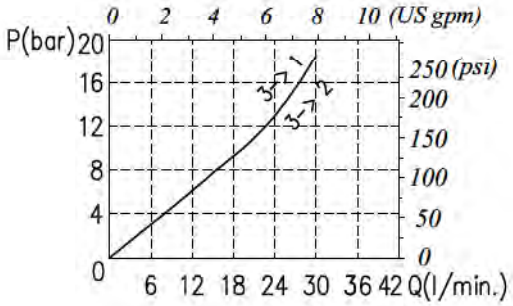
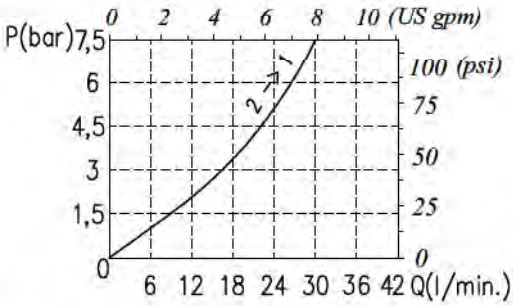
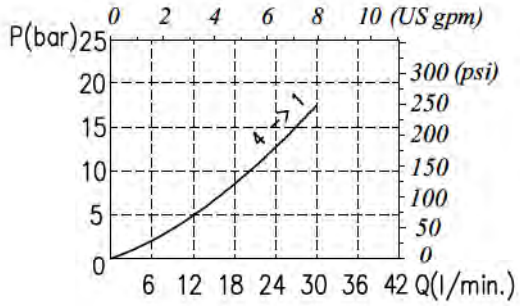
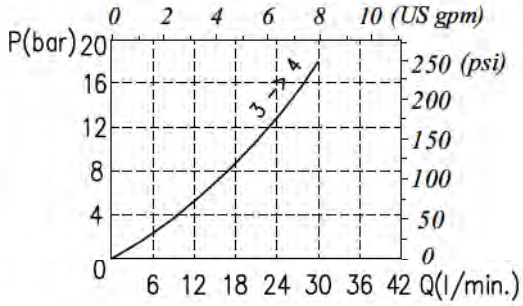


Typical pressure drop vs. flow characteristics









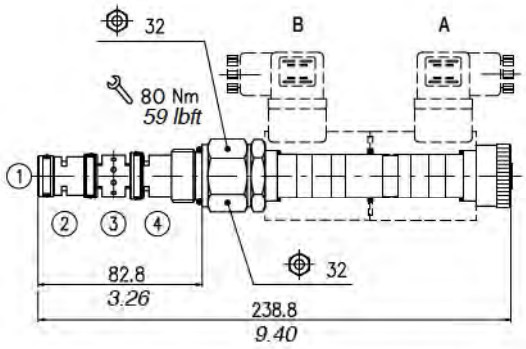
Order code

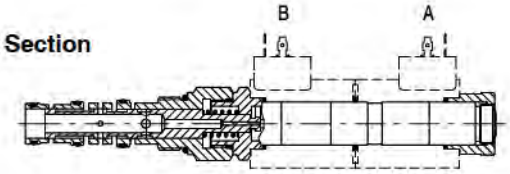
ET 10A / 30 □ - □

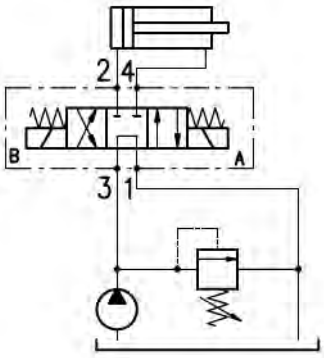
Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit

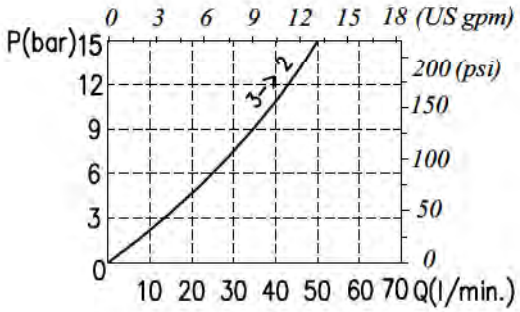


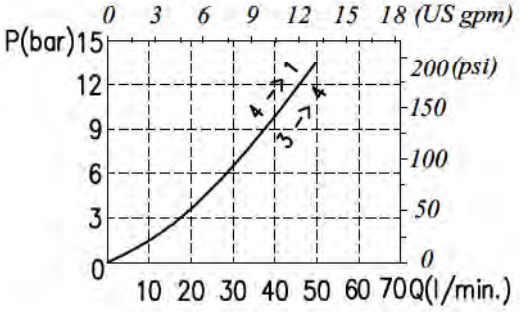


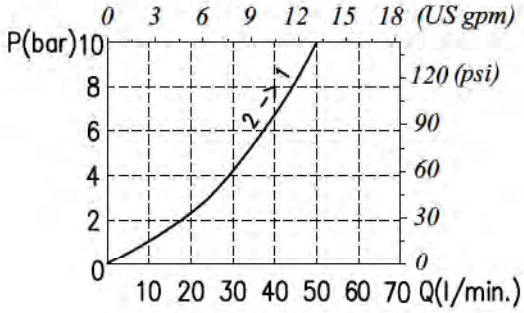


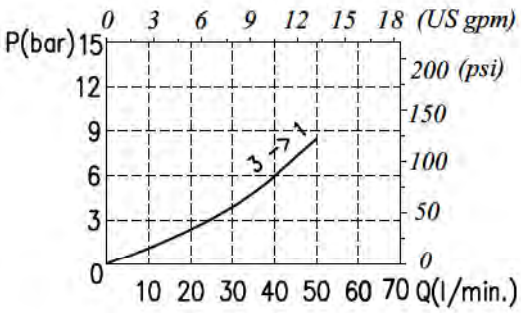
Rating diagrams

Typical pressure drop vs. flow characteristics









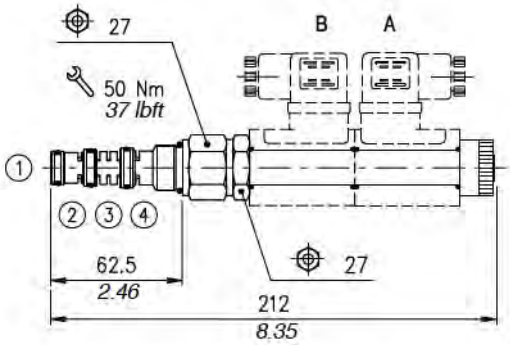
Order code

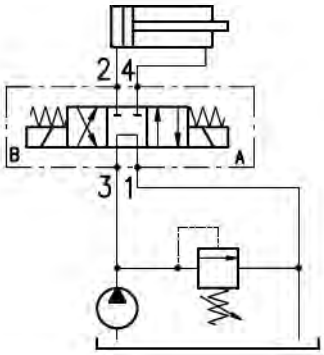
ET 12A / 30 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit





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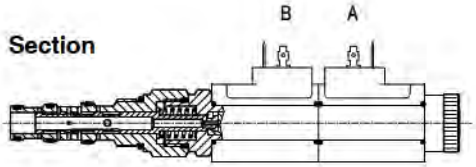
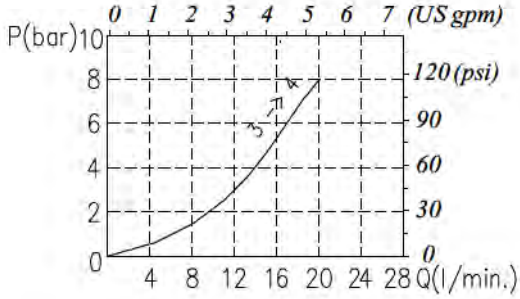
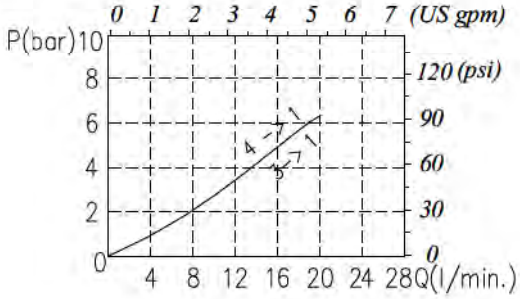
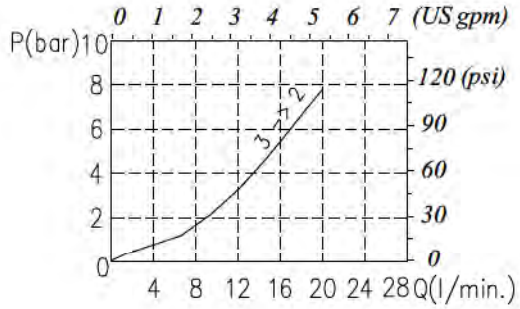
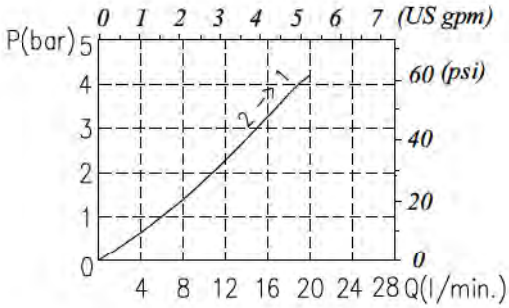


Typical pressure drop vs. flow characteristics









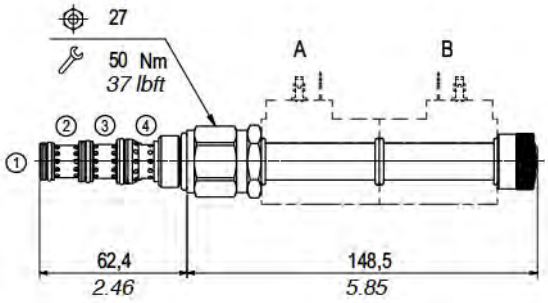
Order code

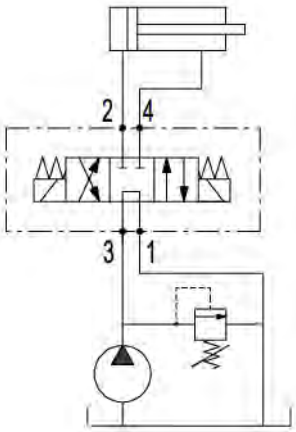
ET 10B / 30 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit





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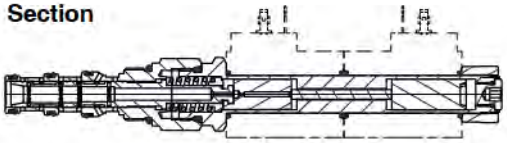
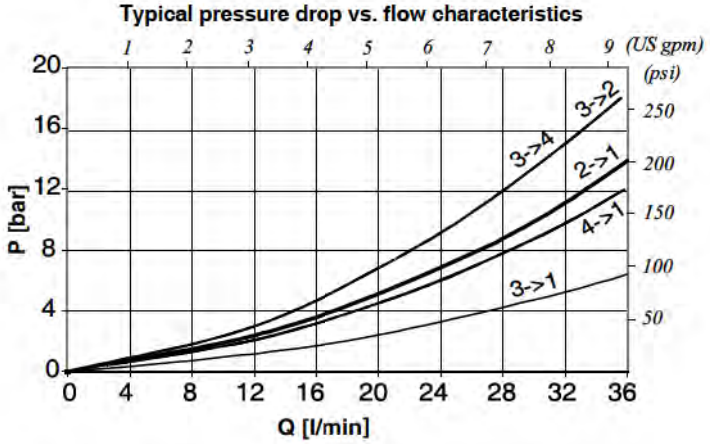


Rating diagrams



Order code

ET10M/30 □ - □

Manual override option
(see page 163)

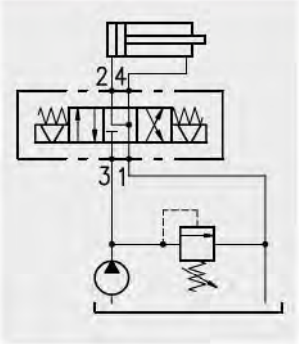
N) No emergency (standard)
P) Button

Seals

B) Buna
V) Viton

Operation

When the solenoid is deenergized the valve provides for connection of all ways in 1, 2 and 4 while the way in 3 is shut. When the solenoids are alternatively energized the valve provides for free oil flow from either 3 to 2 and 4 to 1 or from 3 to 4 and 2 to 1.



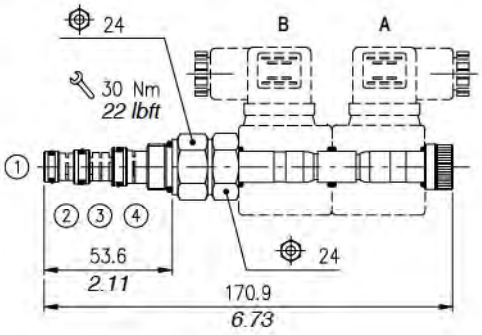
Performance

Cartridges

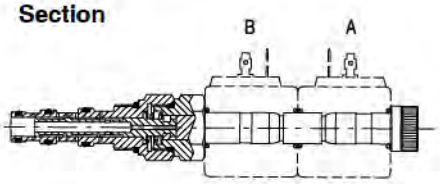
Type	Maximum flow		Maximum pressure		Solenoids	*Oil leaks from 1 to 2	Weight		Cavities and tools
	l/min	*US gpm*	bar	*psi*			kg	*lb*	
ET08C/4	8	*2.1*	210	*3050*	BE/EC 36 see page 157	10 cm³/min. - *0.61 in³/min* at 210 bar - *3050 psi*	0,320	*0.70*	see cavity SAE 8-4 page 173
ET08M/4	18	*5*				40 cm³/min. - *2.44 in³/min* at 210 bar - *3050 psi*	0,250	*0.55*	
ET10M/4	40	*10.5*			BC 16 see page 160	80 cm³/min. - *4.88 in³/min* at 210 bar - *3050 psi*	0,500	*1.10*	see cavity SAE 10-4 page 173
ET10A/4	30	*8*			BIN 19 see page 158	120 cm³/min. - *7.32 in³/min* at 210 bar - *3050 psi*	0,310	*0.68*	
ET12A/4	40	*10.5*			BIN 22 see page 159	60 cm³/min. - *3.66 in³/min* at 210 bar - *3050 psi*	0,720	*1.59*	see cavity SAE 12-4 page 173
ET10B/4	20	*5.3*			BC 16 see page 160	20 cm³/min. - *1.22 in³/min* at 210 bar - *3050 psi*	0,300	*0.66*	see cavity SAE 10-4 page 173

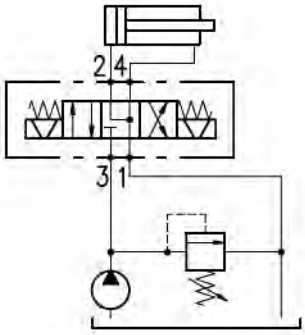
*with oil viscosity of 46 cst

Dimensions and hydraulic circuit



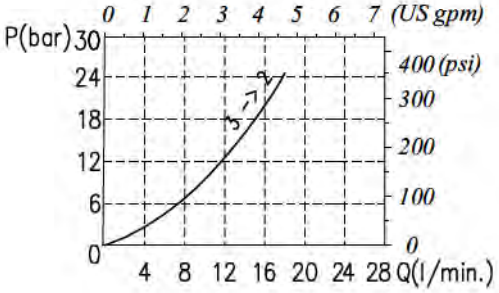
Section

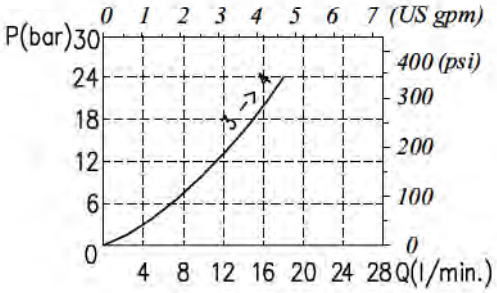


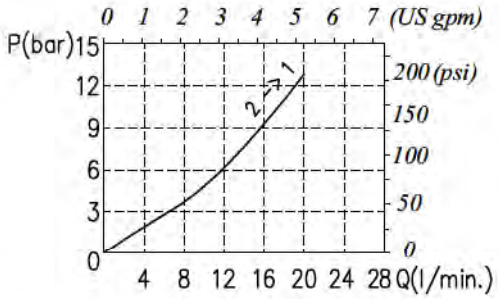


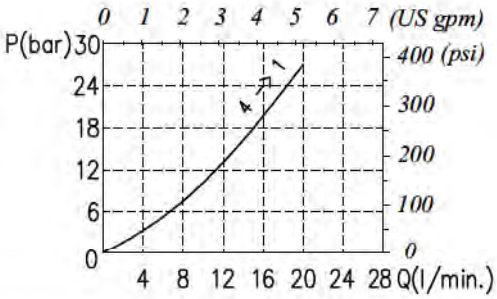
Rating diagrams

Typical pressure drop vs. flow characteristics









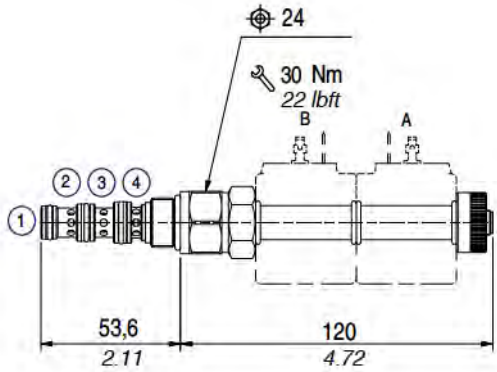
Order code

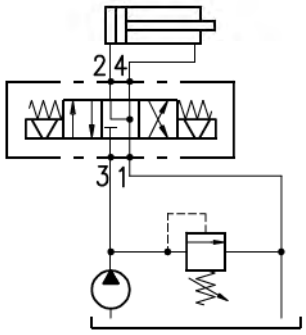
ET 08C / 40 N □

Seals

B) Buna
V) Viton

Dimensions and hydraulic circuit





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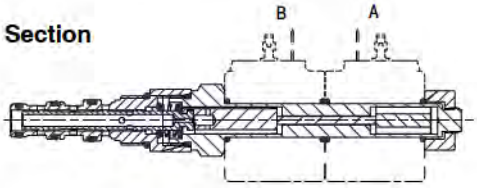
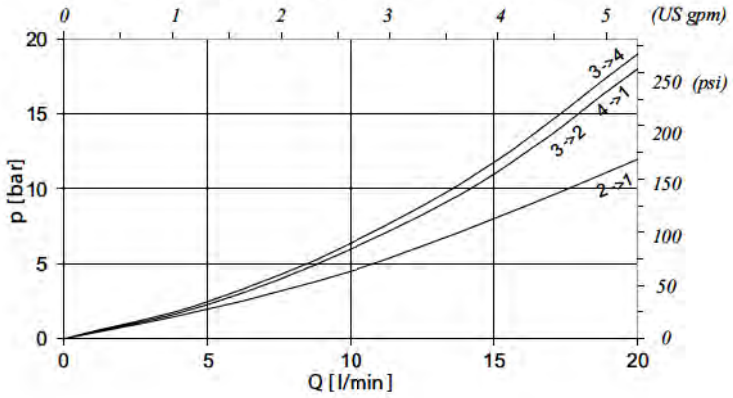


Typical pressure drop vs. flow characteristics



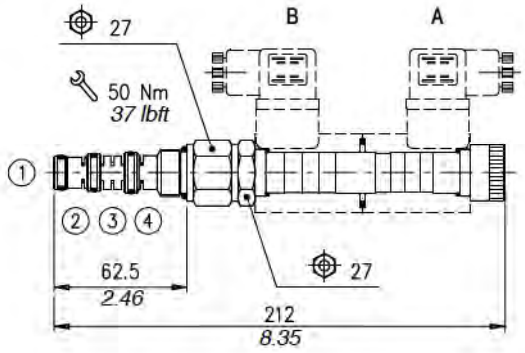
Order code

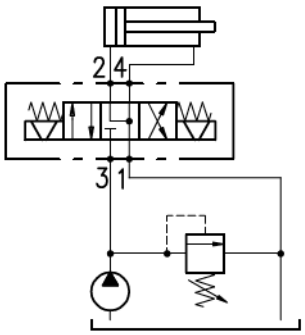
ET 08M / 40 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
D) Push-pull with mechanical detent

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit





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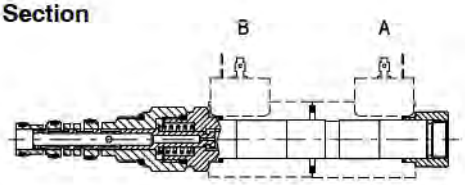
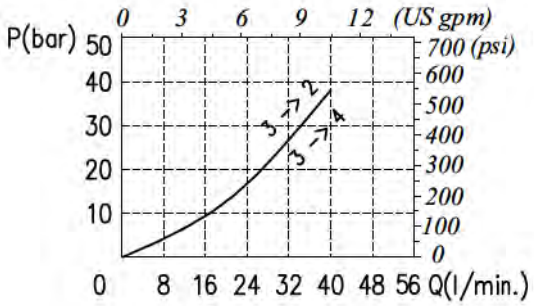
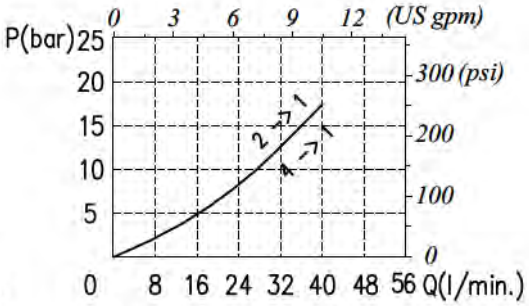


Rating diagrams

Typical pressure drop vs. flow characteristics



Typical pressure drop vs. flow characteristics



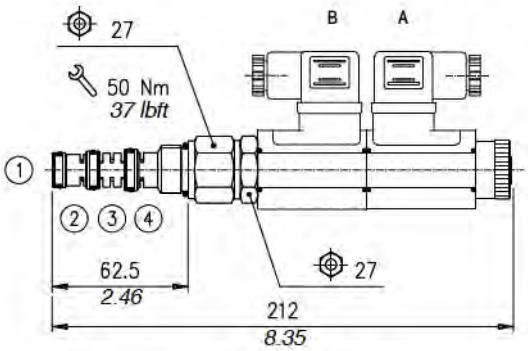
Order code

ET 10A / 40 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit



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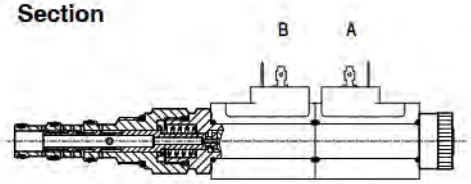
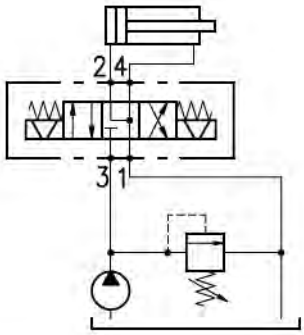
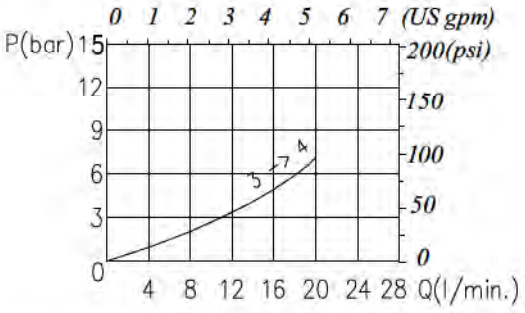
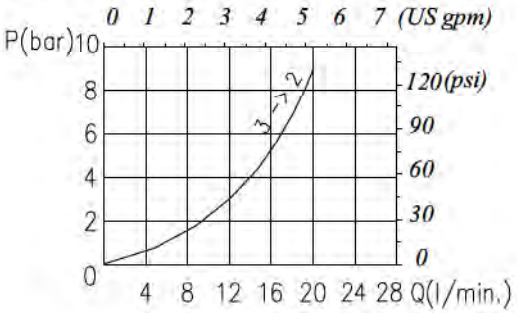
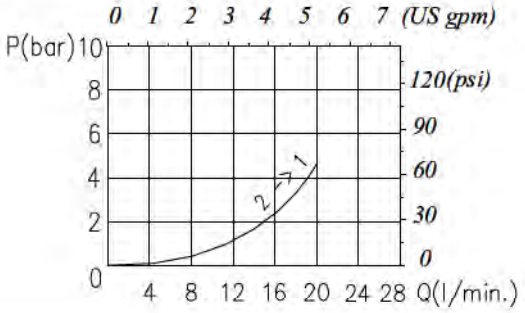


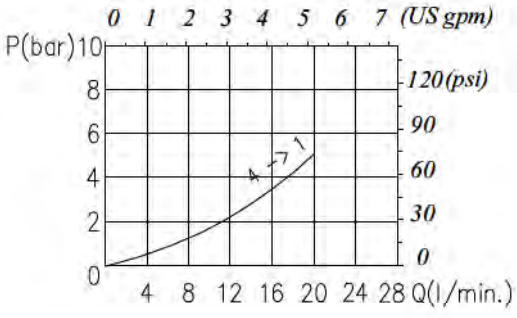


Typical pressure drop vs. flow characteristics









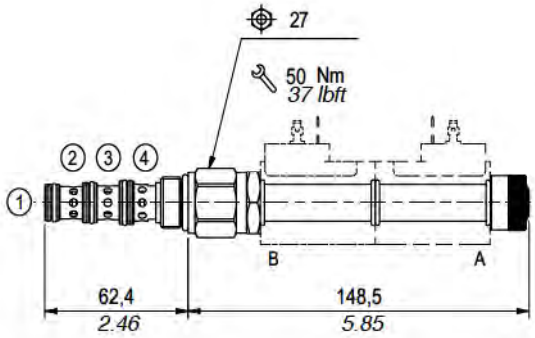
Order code

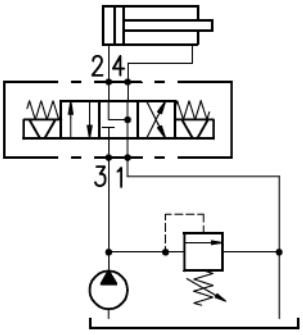
ET 10B / 40 □ - □

Manual override option
(see page 163)
N) No emergency (standard)
P) Button

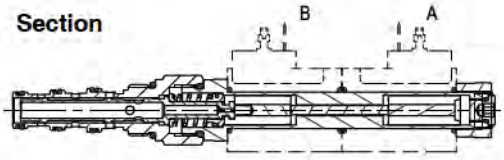
Seals
B) Buna
V) Viton

Dimensions and hydraulic circuit



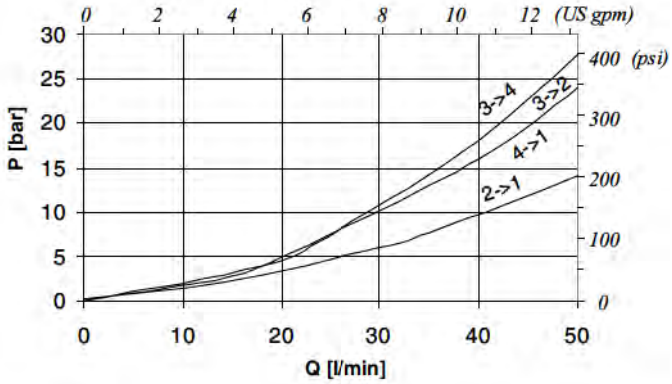


Section



Rating diagrams

Typical pressure drop vs. flow characteristics



Order code

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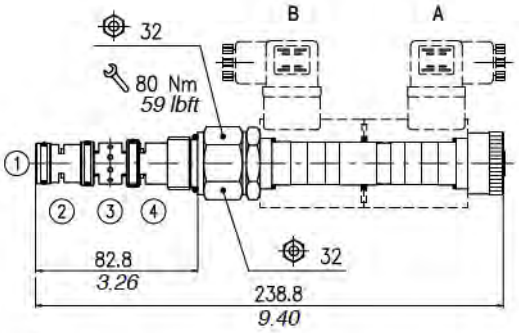
Manual override option
(see page 163)

- **N)** No emergency (standard)
- **D)** Push-pull with mechanical detent
- **P)** Button
- **E)** Push-pull with spring detent

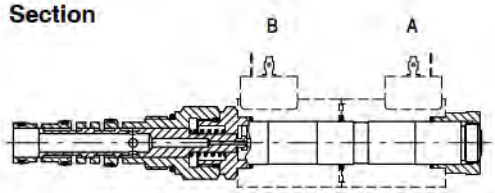
Seals

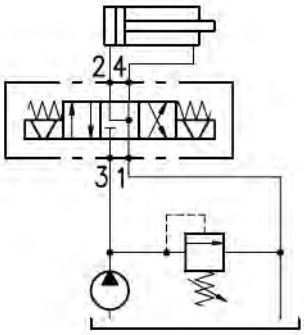
- **B)** Buna
- **V)** Viton

Dimensions and hydraulic circuit

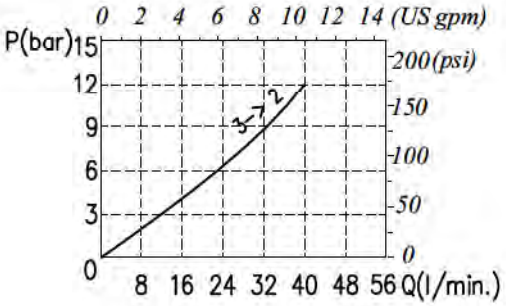


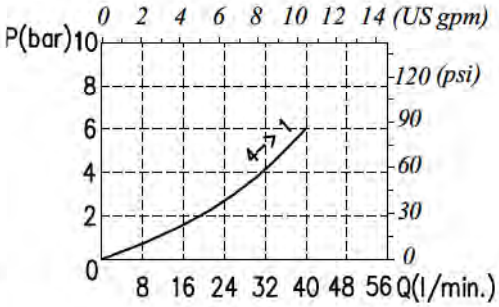
Section

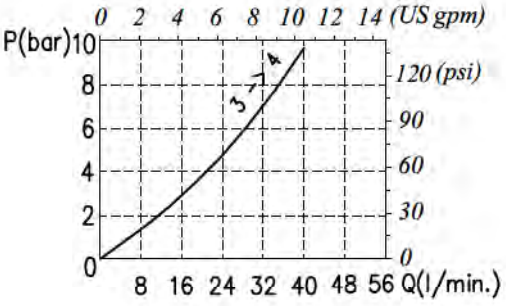


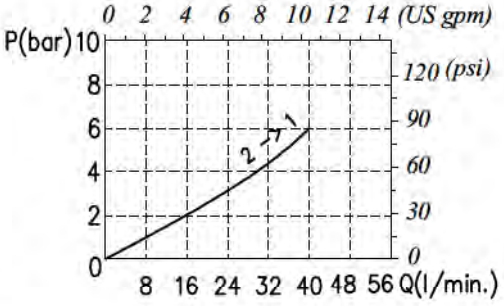


Typical pressure drop vs. flow characteristics









Order code

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Manual override option
(see page 163)
N) No emergency (standard)
P) Button

Seals
B) Buna
V) Viton