



# HYDRAULIC VALVES AND COMPONENTS



## Electrical valves

*Valvole elettriche*

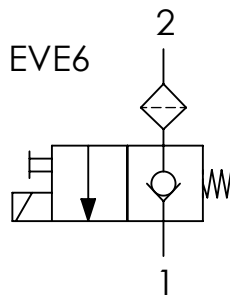
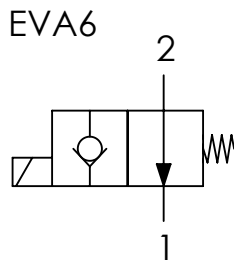
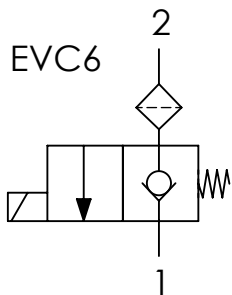


**Codice ordinazione**  
**Ordering code**

01	02	03
<b>EV</b>		

<b>01</b>	Valvole a comando elettrico SAE8 2 vie/2 posizioni diretta (2 ways/2 positions SAE8 electric valves - direct acting)	<b>EV</b>
<b>02</b>	Schema (Circuit)	<b>Normalmente chiusa</b> (Normally closed) <b>C6</b>
		<b>Normalmente chiusa + emerg.</b> (Normally closed + emerg.) <b>E6</b>
		<b>Normalmente aperta</b> (Normally open) <b>A6</b>
<b>03</b>	Tensione (Voltage)	<b>12 V (DC)</b> <b>012DC</b>
		<b>24 V (DC)</b> <b>024DC</b>
		<b>220 V (50 HZ.)</b> <b>22050</b>
		<b>220 V (RAC)</b> <b>220RAC</b>

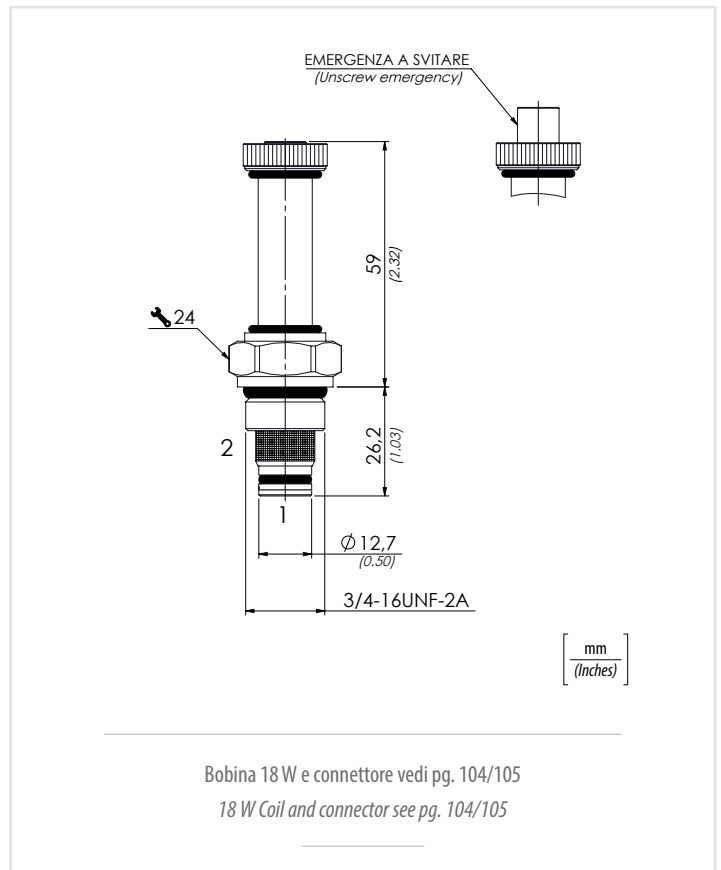
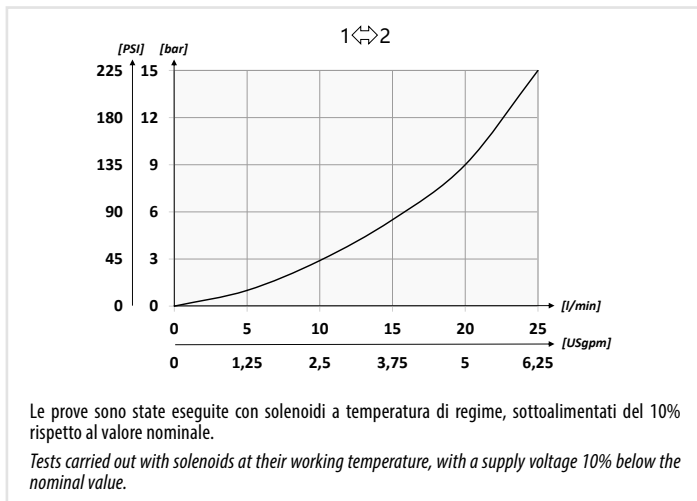
**Schema idraulico - Hydraulic circuit**



**Dati tecnici - Technical data**

<b>Olio idraulico/Mineral oil</b>	ISO 6743/4 (DIN 51524)	
<b>Viscosità olio/Oil viscosity</b>	15-250 mm <sup>2</sup> /s (15 to 250 cSt)	
<b>Classe di contaminazione max con filtro</b> Max contamination index with filter	ISO 4406:1999 Classe 19/17/14	
<b>Temperatura dell'olio/Oil temperature</b>	-20°C +80°C	-4°F + 176°F
<b>Temperatura ambiente/Ambient temperature</b>	-20°C +50°C	-4°F + 122°F
<b>Trafilamento massimo</b> Max leakage	0,25 cm <sup>3</sup> /min - 5 gocce/min 0,015 in <sup>3</sup> /min - 5 drops/min	
<b>È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm)</b> It is necessary a filter use to protect the valve (advised filtration 15 µm)		

**Performances**

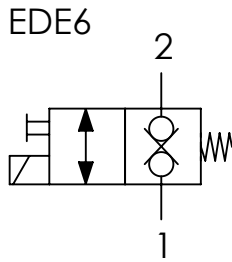


**Caratteristiche tecniche - Technical characteristics**

Codice Code	A	Portata max Max flow l/min-USgpm	Pressione max Max pressure bar/PSI	Peso approssimativo Approx weight kg/lb	Coppia di serraggio Tightening torque Nm/lbf ft	Cavità Cavity
<b>EV6</b>	<b>3/4-16UNF-2A</b>	<b>22 (5.8)</b>	<b>210 (3045)</b>	<b>0,12 (0.26)</b>	<b>30 (22)</b>	<b>SAE 8/2</b>



### Schema idraulico - Hydraulic circuit



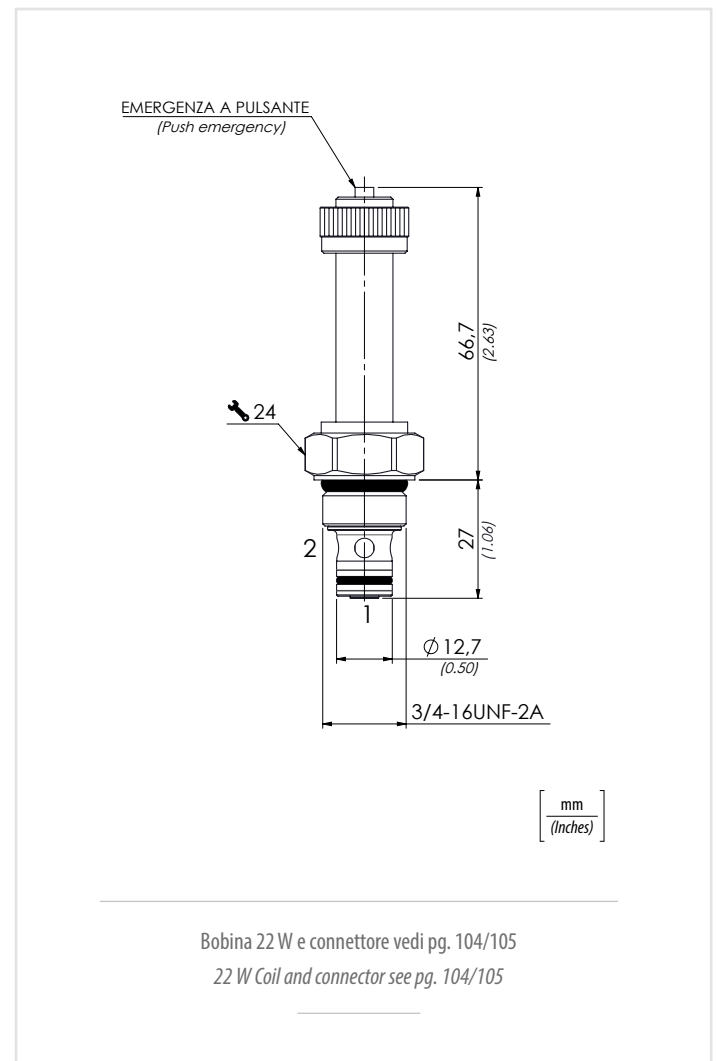
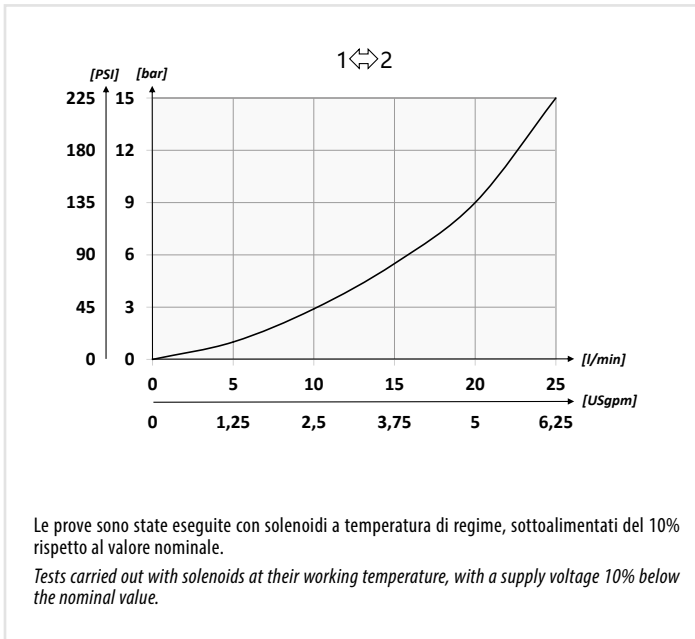
	01	02	03
<b>Codice ordinazione</b> <b>Ordering code</b>	<b>ED</b>	<b>E6</b>	

01	Valvole a comando elettrico SAE8 doppia tenuta 2 vie/2 posizioni diretta (2 ways/2 positions SAE8 double lock electric valves - direct acting)		<b>ED</b>
02	Schema (Circuit)	<b>Normalmente chiusa + emerg.</b> (Normally closed + emerg.)	<b>E6</b>
03	Tensione (Voltage)	<b>12 V (DC)</b>	<b>012DC</b>
		<b>24 V (DC)</b>	<b>024DC</b>
		<b>220 V (RAC)</b>	<b>220RAC</b>

### Dati tecnici - Technical data

<b>Olio idraulico/Mineral oil</b>	ISO 6743/4 (DIN 51524)		
<b>Viscosità olio/Oil viscosity</b>	15-250 mm <sup>2</sup> /s (15 to 250 cSt)		
<b>Classe di contaminazione max con filtro</b> Max contamination index with filter	ISO 4406:1999 Classe 19/17/14		
<b>Temperatura dell'olio/Oil temperature</b>	-20°C +80°C	-4°F + 176°F	
<b>Temperatura ambiente/Ambient temperature</b>	-20°C +50°C	-4°F + 122°F	
<b>Trafilamento massimo</b> Max leakage	0,25 cm <sup>3</sup> /min - 5 gocce/min 0,015 in <sup>3</sup> /min - 5 drops/min		
<b>È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm)</b> It is necessary a filter use to protect the valve (advised filtration 15 µm)			

### Performances



### Caratteristiche tecniche - Technical characteristics

Codice Code	A	Portata max Max flow l/min-USgpm	Pressione max Max pressure bar/PSI	Peso approssimativo Approx weight kg/lb	Coppia di serraggio Tightening torque Nm/lbf ft	Cavità Cavity
<b>EDE6</b>	<b>3/4-16UNF-2A</b>	<b>22 (5.8)</b>	<b>210 (3045)</b>	<b>0,13 (0.28)</b>	<b>30 (22)</b>	<b>SAE 8/2</b>

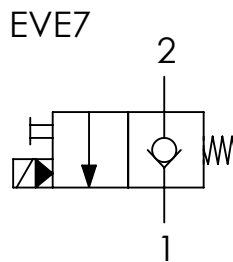
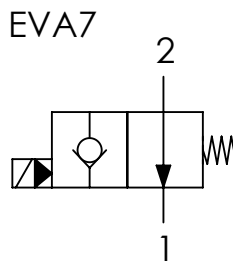
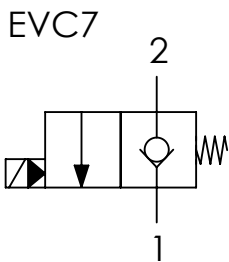


**Codice ordinazione**  
**Ordering code**

01	02	03
<b>EV</b>		

<b>01</b>	Valvole a comando elettrico SAE8 2 vie/2 posizioni pilotata (2 ways/2 positions SAE8 electric valves - pilot operated)	<b>EV</b>
<b>02</b>	Schema (Circuit)	<b>Normalmente chiusa</b> (Normally closed) <b>C7</b>
		<b>Normalmente chiusa + emerg.</b> (Normally closed + emerg.) <b>E7</b>
		<b>Normalmente aperta</b> (Normally open) <b>A7</b>
<b>03</b>	Tensione (Voltage)	<b>12 V (DC)</b> <b>012DC</b>
		<b>24 V (DC)</b> <b>024DC</b>
		<b>220 V (RAC)</b> <b>220RAC</b>

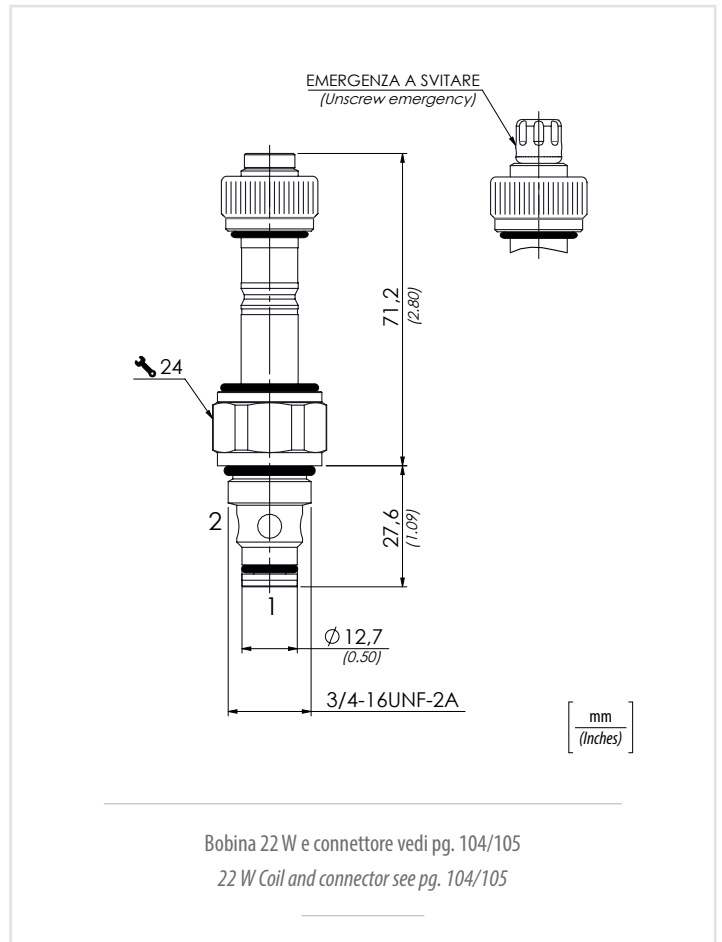
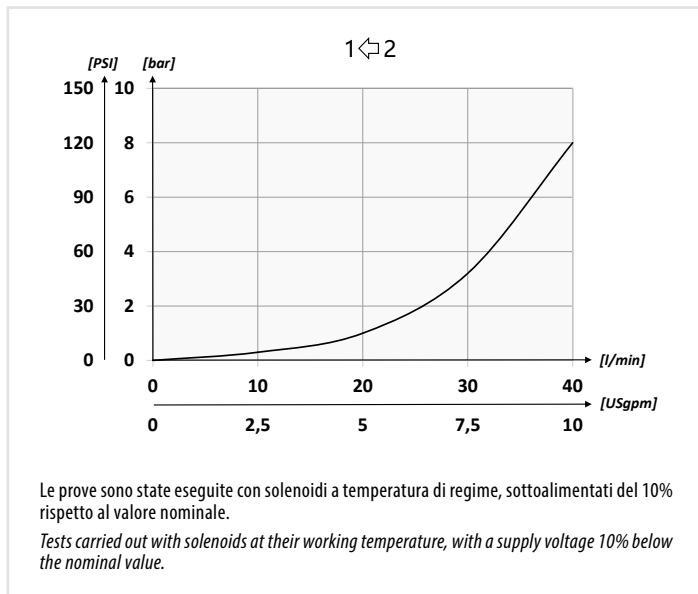
**Schema idraulico - Hydraulic circuit**



**Dati tecnici - Technical data**

<b>Olio idraulico/Mineral oil</b>	<b>ISO 6743/4 (DIN 51524)</b>
<b>Viscosità olio/Oil viscosity</b>	<b>15-250 mm<sup>2</sup>/s (15 to 250 cSt)</b>
<b>Classe di contaminazione max con filtro</b> Max contamination index with filter	<b>ISO 4406:1999 Classe 19/17/14</b>
<b>Temperatura dell'olio/Oil temperature</b>	<b>-20°C +80°C      -4°F + 176°F</b>
<b>Temperatura ambiente/Ambient temperature</b>	<b>-20°C +50°C      -4°F + 122°F</b>
<b>Trafilamento massimo</b> Max leakage	<b>0,25 cm<sup>3</sup>/min - 5 gocce/min</b> <b>0,015 in<sup>3</sup>/min - 5 drops/min</b>
<b>È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm)</b> It is necessary a filter use to protect the valve (advised filtration 15 µm)	

**Performances**

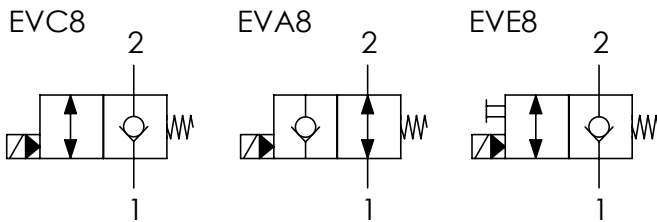


**Caratteristiche tecniche - Technical characteristics**

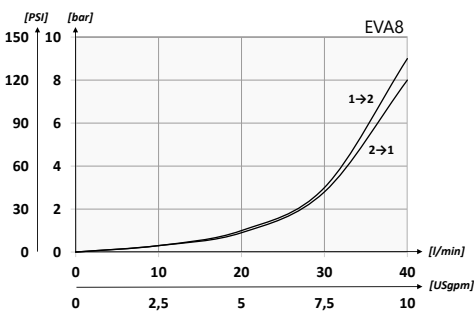
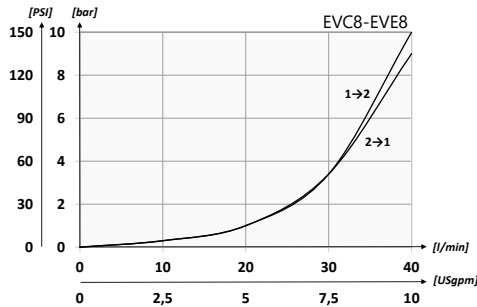
Codice Code	A	Portata max (l/min) Max flow (USgpm)	Pressione max (bar) Max pressure (PSI)	Peso approssimativo Approx weight kg/lb	Coppia di serraggio Tightening torque Nm/lbf ft	Cavità Cavity
<b>EV7</b>	<b>3/4-16UNF-2A</b>	<b>40 (10.8)</b>	<b>350 (5075)</b>	<b>0,16 (0.35)</b>	<b>30 (22)</b>	<b>SAE 8/2</b>



### Schema idraulico - Hydraulic circuit



### Performances



Le prove sono state eseguite con solenoidi a temperatura di regime, sottoalimentati del 10% rispetto al valore nominale.

Tests carried out with solenoids at their working temperature, with a supply voltage 10% below the nominal value.

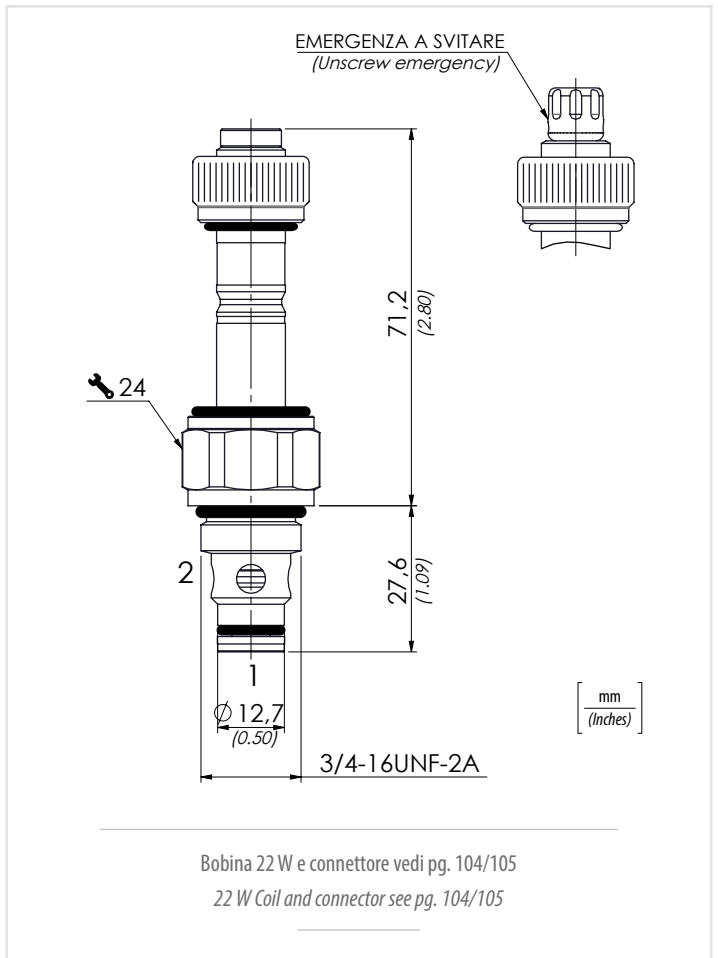
### Caratteristiche tecniche - Technical characteristics

Codice Code	A	Portata max (l/min) Max flow (USgpm)	Pressione max (bar) Max pressure (PSI)	Peso approssimativo Approx weight kg/lb	Coppia di serraggio Tightening torque Nm/lbf ft	Cavità Cavity
EV8	3/4-16UNF-2A	40 (10.8)	350 (5075)	0,16 (0.35)	30 (22)	SAE 8/2

### Codice ordinazione Ordering code

01	02	03
<b>EV</b>		

<b>01</b>	Valvole a comando elettrico SAE8 2 vie/2 posizioni pilotata (2 ways/2 positions SAE8 electric valves - pilot operated)	<b>EV</b>
<b>02</b>	Schema (Circuit)	<b>C8</b>
	Normalmente chiusa (Normally closed)	<b>C8</b>
	Normalmente chiusa + emerg. (Normally closed + emerg.)	<b>E8</b>
<b>03</b>	Tensione (Voltage)	<b>A8</b>
	Normalmente aperta (Normally open)	<b>A8</b>
	12 V (DC)	<b>012DC</b>
	24 V (DC)	<b>024DC</b>
	220 V (RAC)	<b>220RAC</b>



### Dati tecnici - Technical data

<b>Olio idraulico/Mineral oil</b>	<b>ISO 6743/4 (DIN 51524)</b>
<b>Viscosità olio/Oil viscosity</b>	<b>15-250 mm<sup>2</sup>/s (15 to 250 cSt)</b>
<b>Classe di contaminazione max con filtro</b>	<b>ISO 4406:1999 Classe 19/17/14</b>
<i>Max contamination index with filter</i>	
<b>Temperatura dell'olio/Oil temperature</b>	<b>-20°C +80°C</b> -4°F + 176°F
<b>Temperatura ambiente/Ambient temperature</b>	<b>-20°C +50°C</b> -4°F + 122°F
<b>Trafilamento massimo</b>	<b>0,25 cm<sup>3</sup>/min - 5 gocce/min</b>
<i>Max leakage</i>	<i>0,015 in<sup>3</sup>/min - 5 drops/min</i>
<b>È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm)</b>	
<i>It is necessary a filter use to protect the valve (advised filtration 15 µm)</i>	

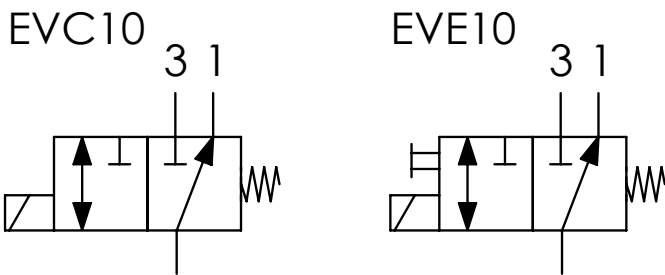


**Codice ordinazione**  
**Ordering code**

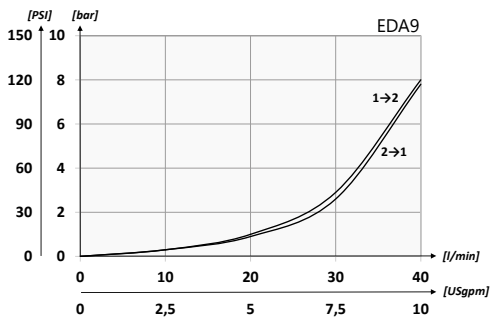
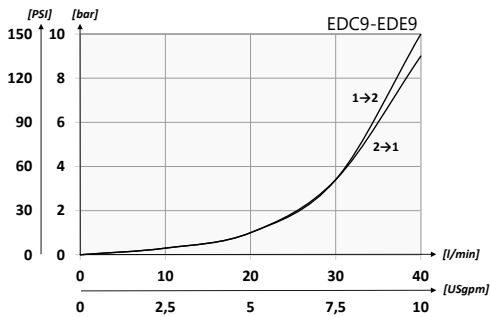
01	02	03
<b>ED</b>		

<b>01</b>	Valvole a comando elettrico SAE8 doppia tenuta 2 vie/2 posizioni pilotata (2 ways/2 positions SAE8 double lock electric valves - pilot operated)	<b>ED</b>	
<b>02</b>	Schema (Circuit)	<b>C9</b>	
	Normalmente chiusa (Normally closed)	<b>C9</b>	
	Normalmente chiusa + emerg. (Normally closed + emerg.)	<b>E9</b>	
<b>03</b>	Tensione (Voltage)	Normalmente aperta (Normally open)	<b>A9</b>
		12 V (DC)	<b>012DC</b>
		24 V (DC)	<b>024DC</b>
		220 V (RAC)	<b>220RAC</b>

**Schema idraulico - Hydraulic circuit**

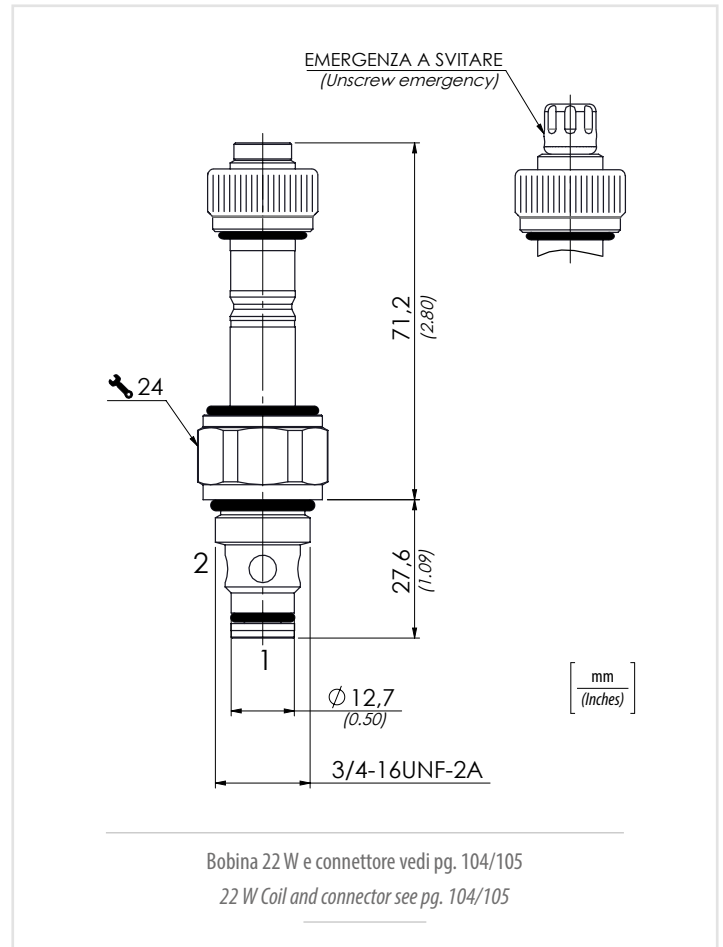


**Performances**



Le prove sono state eseguite con solenoidi a temperatura di regime, sottoalimantati del 10% rispetto al valore nominale.

Tests carried out with solenoids at their working temperature, with a supply voltage 10% below the nominal value.



**Dati tecnici - Technical data**

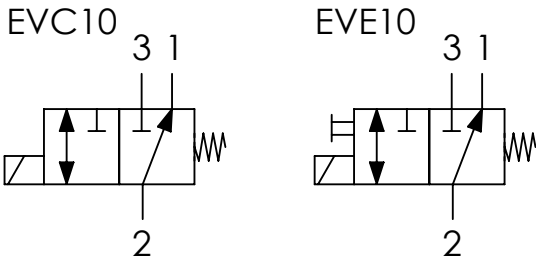
<b>Olio idraulico/Mineral oil</b>	<b>ISO 6743/4 (DIN 51524)</b>
<b>Viscosità olio/Oil viscosity</b>	<b>15-250 mm<sup>2</sup>/s (15 to 250 cSt)</b>
<b>Classe di contaminazione max con filtro</b>	<b>ISO 4406:1999 Classe 19/17/14</b>
<i>Max contamination index with filter</i>	
<b>Temperatura dell'olio/Oil temperature</b>	<b>-20°C +80°C      -4°F + 176°F</b>
<b>Temperatura ambiente/Ambient temperature</b>	<b>-20°C +50°C      -4°F + 122°F</b>
<b>Trafilamento massimo</b>	<b>0,5 cm<sup>3</sup>/min - 10 gocce/min</b>
<i>Max leakage</i>	<b>0,30 in<sup>3</sup>/min - 10 drops/min</b>
<b>È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm)</b>	
<i>It is necessary a filter use to protect the valve (advised filtration 15 µm)</i>	

**Caratteristiche tecniche - Technical characteristics**

Codice Code	A	Portata max (l/min) Max flow (USgpm)	Pressione max (bar) Max pressure (PSI)	Peso approssimativo (kg) Approx weight (lb)	Coppia di serraggio (Nm) Tightening torque (lbf ft)	Cavità Cavity
<b>ED9</b>	<b>3/4-16UNF-2A</b>	<b>40 (10.8)</b>	<b>350 (5075)</b>	<b>0,16 (0.35)</b>	<b>30 (22)</b>	<b>SAE 8/2</b>



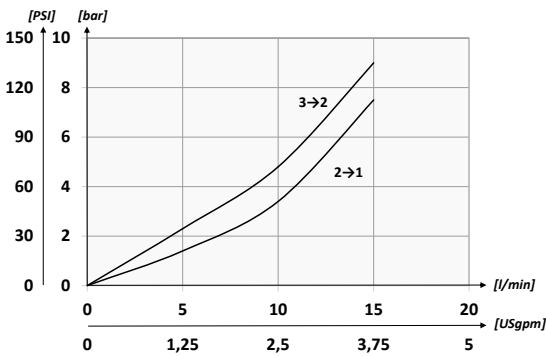
### Schema idraulico - Hydraulic circuit



### Dati tecnici - Technical data

Olio idraulico/Mineral oil	ISO 6743/4 (DIN 51524)	
Viscosità olio/Oil viscosity	15-250 mm <sup>2</sup> /s (15 to 250 cSt)	
Classe di contaminazione max con filtro Max contamination index with filter	ISO 4406:1999 Classe 19/17/14	
Temperatura dell'olio/Oil temperature	-20°C +80°C	-4°F + 176°F
Temperatura ambiente/Ambient temperature	-20°C +50°C	-4°F + 122°F
Trafilamento massimo Max leakage	60 cm <sup>3</sup> /min 36 in <sup>3</sup> /min	
È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm) It is necessary a filter use to protect the valve (advised filtration 15 µm)		

### Performances

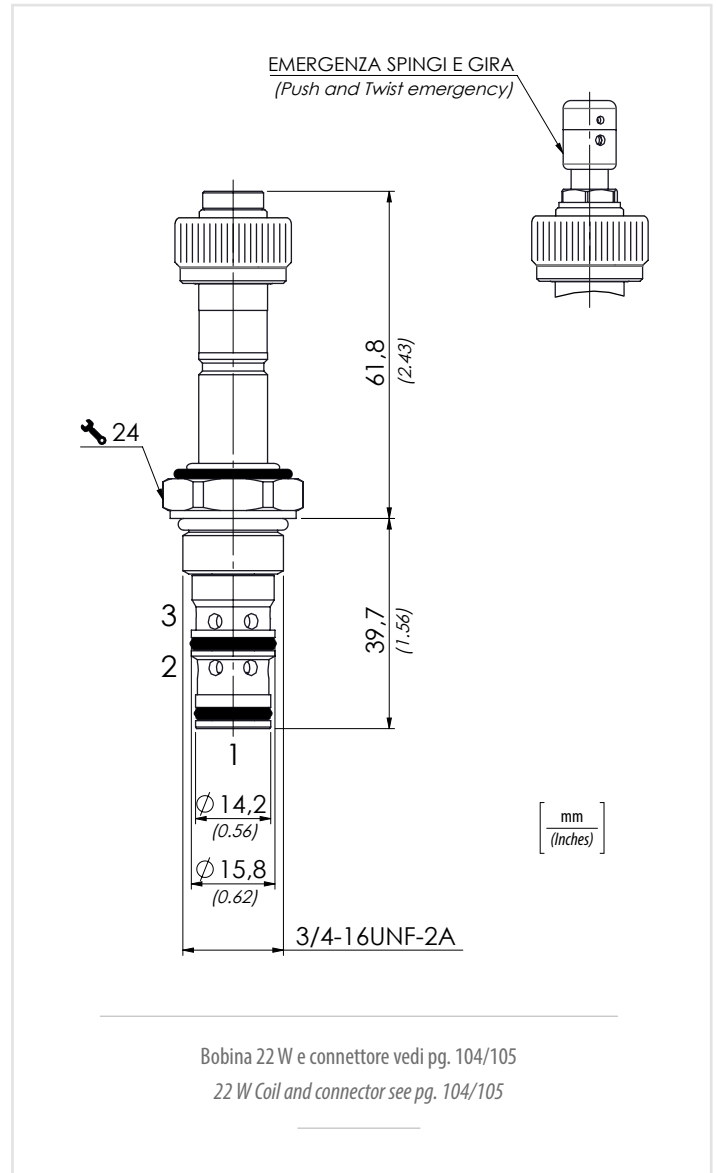


Le prove sono state eseguite con solenoidi a temperatura di regime, sottoalimentati del 10% rispetto al valore nominale.

Tests carried out with solenoids at their working temperature, with a supply voltage 10% below the nominal value.

Codice ordinazione Ordering code	01	02	03
	<b>EV</b>		

01	Valvole a comando elettrico SAE8 3 vie/2 posizioni diretta (3 ways/2 positions SAE8 electric valves - direct acting)	<b>EV</b>
02	Schema (Circuit)	Vedi schema (See diagram) <b>C10</b>
		Vedi schema (See diagram) <b>E10</b>
03	Tensione (Voltage)	12 V (DC) <b>012DC</b>
		24 V (DC) <b>024DC</b>
		220 V (RAC) <b>220RAC</b>

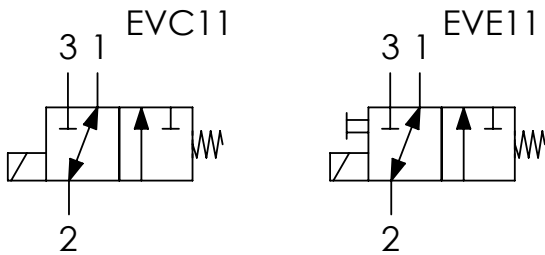


### Caratteristiche tecniche - Technical characteristics

Codice Code	A	Portata max (l/min) Max flow (USgpm)	Pressione max (bar) Max pressure (PSI)	Peso approssimativo Approx weight	Coppia di serraggio Tightening torque Nm/lbf ft	Cavità Cavity
<b>EV10</b>	<b>3/4-16UNF-2A</b>	<b>12 (3.2)</b>	<b>210 (3045)</b>	<b>0,15 (0.33)</b>	<b>30 (22)</b>	<b>SAE 8/3</b>



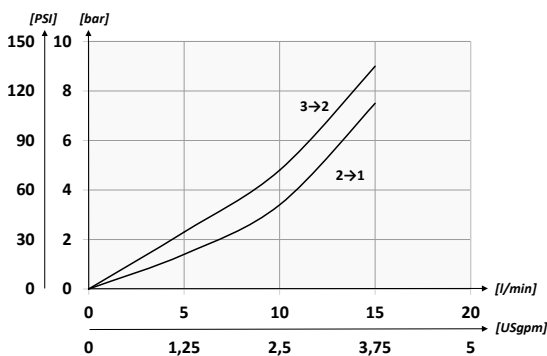
### Schema idraulico - Hydraulic circuit



### Dati tecnici - Technical data

Olio idraulico/Mineral oil	ISO 6743/4 (DIN 51524)
Viscosità olio/Oil viscosity	15-250 mm <sup>2</sup> /s (15 to 250 cSt)
Classe di contaminazione max con filtro Max contamination index with filter	ISO 4406:1999 Classe 19/17/14
Temperatura dell'olio/Oil temperature	-20°C +80°C      -4°F + 176°F
Temperatura ambiente/Ambient temperature	-20°C +50°C      -4°F + 122°F
Trafilamento massimo Max leakage	60 cm <sup>3</sup> /min. 36 in <sup>3</sup> /min
<b>È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm)</b> It is necessary a filter use to protect the valve (advised filtration 15 µm)	

### Performances

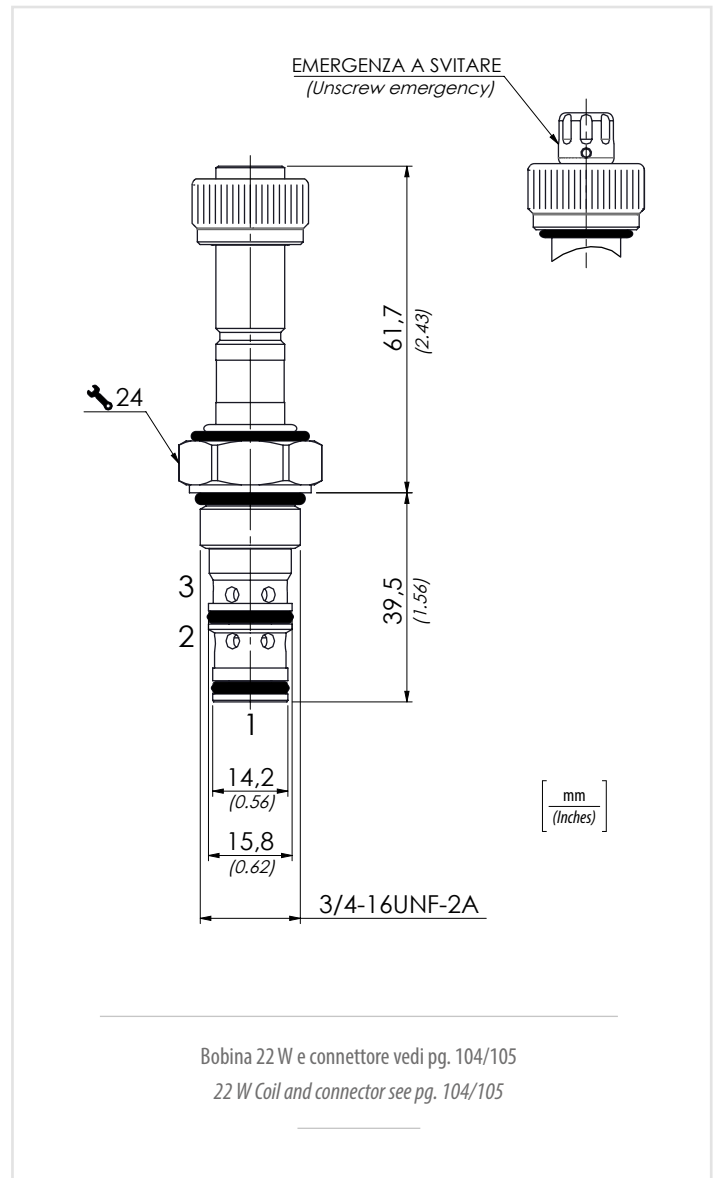


Le prove sono state eseguite con solenoidi a temperatura di regime, sottoalimentati del 10% rispetto al valore nominale.

Tests carried out with solenoids at their working temperature, with a supply voltage 10% below the nominal value.

Codice ordinazione Ordering code	01	02	03
	<b>EV</b>		

01	Valvole a comando elettrico SAE8 3 vie/2 posizioni diretta (3 ways/2 positions SAE8 electric valves - direct acting)	<b>EV</b>
02	Schema (Circuit)	Vedi schema (See diagram) <b>C11</b>
		Vedi schema (See diagram) <b>E11</b>
03	Tensione (Voltage)	<b>12 V (DC)</b> <b>012DC</b>
		<b>24 V (DC)</b> <b>024DC</b>
		<b>220 V (RAC)</b> <b>220RAC</b>



### Caratteristiche tecniche - Technical characteristics

Codice Code	A	Portata max (l/min) Max flow (USgpm)	Pressione max (bar) Max pressure (PSI)	Peso approssimativo Approx weight	Coppia di serraggio Tightening torque Nm/ lbf ft	Cavità Cavity
<b>EV11</b>	<b>3/4-16UNF-2A</b>	<b>12 (3.2)</b>	<b>210 (3045)</b>	<b>0,15 (0.33)</b>	<b>30 (22)</b>	<b>SAE 8/3</b>



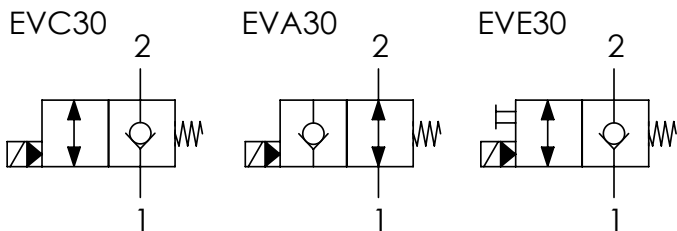


**Codice ordinazione**  
**Ordering code**

01	02	03
<b>EV</b>		

<b>01</b>	Valvole a comando elettrico SAE10 2 vie/2 posizioni pilotata (2 ways/2 positions SAE10 electric valves - pilot operated)	<b>EV</b>
<b>02</b>	Schema (Circuit)	<b>Normalmente chiusa</b> (Normally closed) <b>C30</b>
		<b>Normalmente chiusa + emerg.</b> (Normally closed + emerg.) <b>E30</b>
		<b>Normalmente aperta</b> (Normally open) <b>A30</b>
<b>03</b>	Tensione (Voltage)	<b>12 V (DC)</b> <b>012DC</b>
		<b>24 V (DC)</b> <b>024DC</b>
		<b>220 V (RAC)</b> <b>220RAC</b>

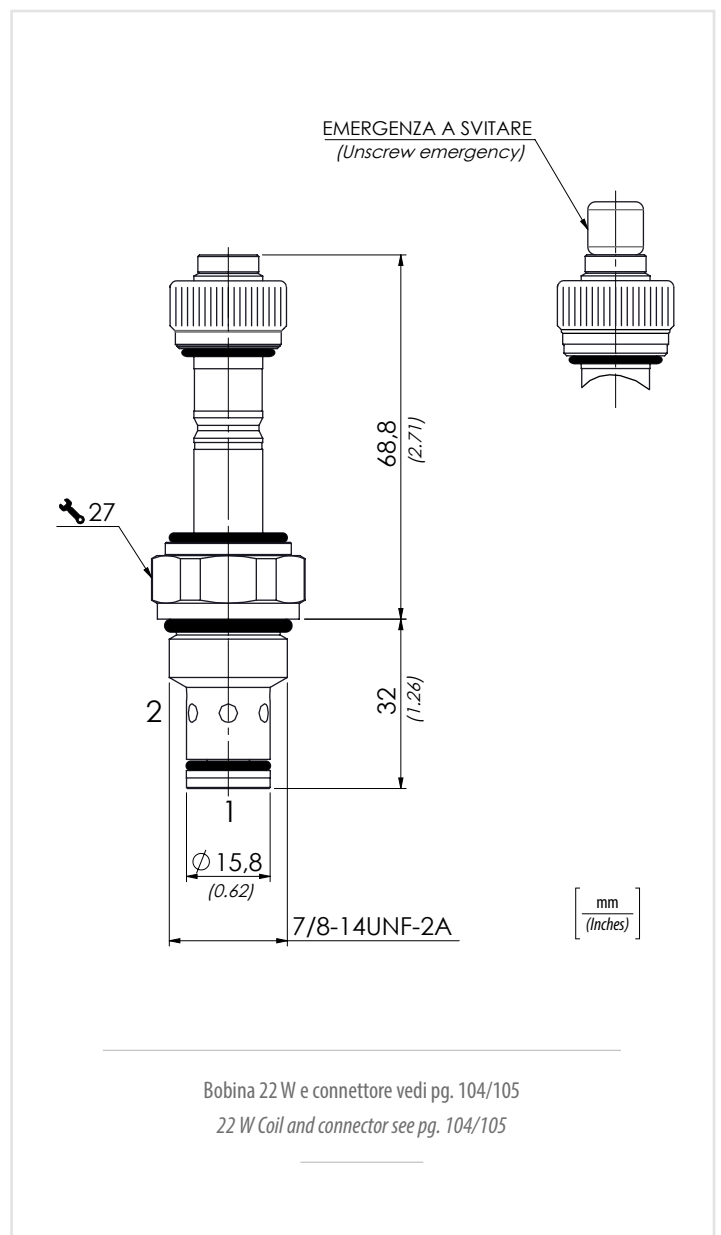
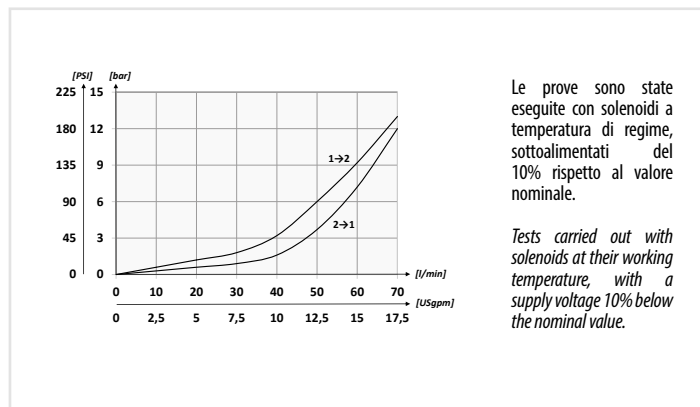
**Schema idraulico - Hydraulic circuit**



**Dati tecnici - Technical data**

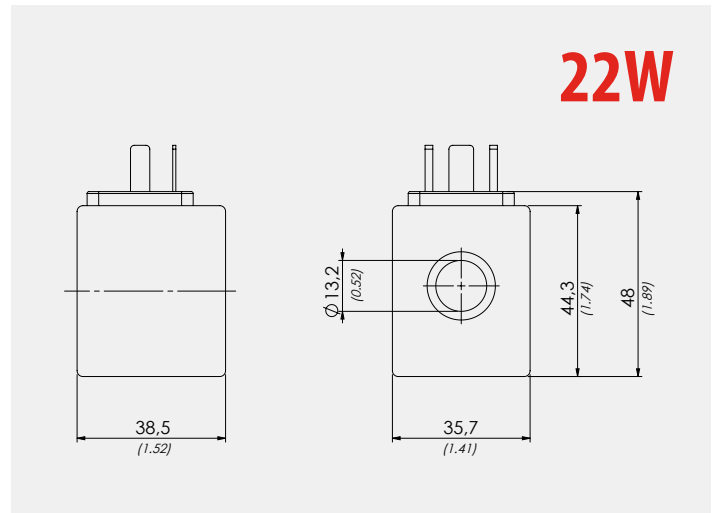
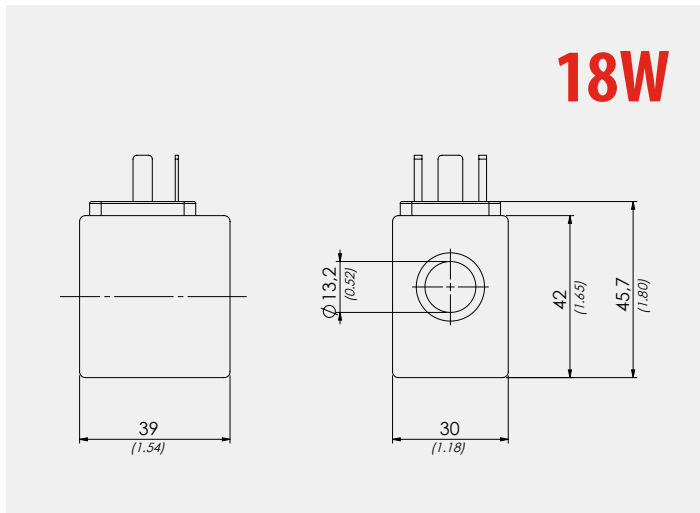
<b>Olio idraulico/Mineral oil</b>	<b>ISO 6743/4 (DIN 51524)</b>
<b>Viscosità olio/Oil viscosity</b>	<b>15-250 mm<sup>2</sup>/s (15 to 250 cSt)</b>
<b>Classe di contaminazione max con filtro</b> Max contamination index with filter	<b>ISO 4406:1999 Classe 19/17/14</b>
<b>Temperatura dell'olio/Oil temperature</b>	<b>-20°C +80°C      -4°F + 176°F</b>
<b>Temperatura ambiente/Ambient temperature</b>	<b>-20°C +50°C      -4°F + 122°F</b>
<b>Trafilamento massimo</b> Max leakage	<b>0,25 cm<sup>3</sup>/min - 5 gocce/min</b> <b>0,015 in<sup>3</sup>/min - 5 drops/min</b>
<b>È indispensabile l'utilizzo di un filtro per proteggere la valvola (filtrazione consigliata 15 µm)</b> It is necessary a filter use to protect the valve (advised filtration 15 µm)	

**Performances**



**Caratteristiche tecniche - Technical characteristics**

Codice Code	A	Portata max (l/min) Max flow (USgpm)	Pressione max (bar) Max pressure (PSI)	Peso approssimativo Approx weight	Coppia di serraggio Tightening torque Nm/lbft	Cavità Cavity
<b>EV30</b>	<b>7/8-14UNF-2A</b>	<b>70 (18.5)</b>	<b>350 (5075)</b>	<b>0,19 (0.40)</b>	<b>40 (30)</b>	<b>SAE 10/2</b>



Codice Code	Tensione Voltage	Connettore Connector	Peso approssimativo Approx weight
<b>EC012DC</b>	12VDC	Standard DIN 43650	<b>0,14 Kg</b> 0.30 lb
<b>EC024DC</b>	24VDC		
<b>EC22050</b>	220-50/60 Hz		
<b>EC220RAC</b>	220-50/60 Hz	Con raddrizzatore (With rectifier) DIN 43650	

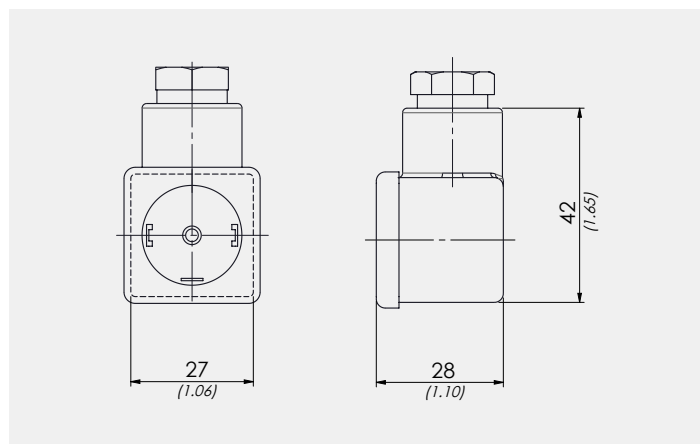
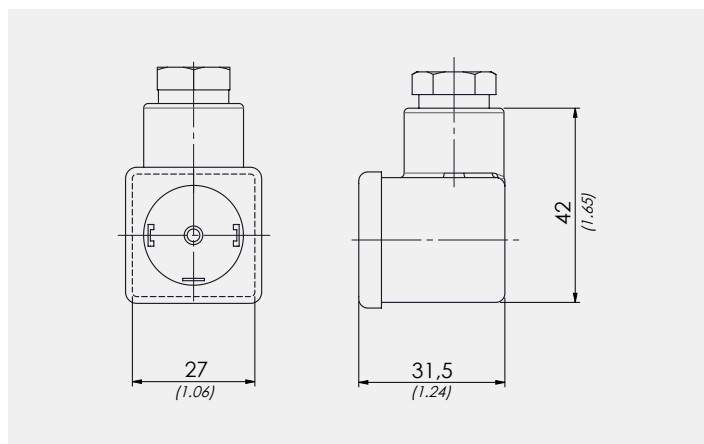
Codice Code	Tensione Voltage	Connettore standard Standard connector	Peso approssimativo Approx weight
<b>EC36012DC</b>	12VDC	Standard DIN 43650	<b>0,21 Kg</b> 0.46 lb
<b>EC36024DC</b>	24VDC		
<b>EC36220RAC</b>	220-50/60 Hz	Con raddrizzatore (With rectifier) DIN 43650	

### Dati tecnici - Technical data

<b>Coppia di serraggio ghiera bobina/Coil nut tightening torque</b>	<b>2Nm</b>
<b>Potenza assorbita in CA/Absorbed power in AC</b>	<b>20 VA</b>
<b>Potenza assorbita in CC/Absorbed power in DC</b>	<b>18 W</b>
<b>Potenza assorbita allo spunto/Absorbed power in pickup</b>	<b>28 VA</b>

### Dati tecnici - Technical data

<b>Coppia di serraggio ghiera bobina/Coil nut tightening torque</b>	<b>2Nm</b>
<b>Potenza assorbita in CA/Absorbed power in AC</b>	<b>20 VA</b>
<b>Potenza assorbita in CC/Absorbed power in DC</b>	<b>22 W</b>
<b>Potenza assorbita allo spunto/Absorbed power in pickup</b>	<b>28 VA</b>



<b>Connettore con raddrizzatore</b> <i>Connector with rectifier</i>	
Codice (Code): <b>88100003</b>	EN 175301-803
Corrente nominale contatti <i>Nominal current</i>	<b>10 A</b>
Corrente max contatti <i>Max operating current</i>	<b>16 A</b>
Resistenza contatti <i>Contact resistance</i>	<b>≤ 4m Ohm</b>
Sezione max conduttori <i>Max conductors cross-section</i>	<b>1,5 mm<sup>2</sup></b>
Portacontatti, dado <i>Contact holder</i>	<b>PA</b>
Tipo di serracavo <i>Gland size options</i>	<b>Pg09</b>
Diamentro cavo <i>Cable diameter</i>	<b>6-8 mm</b>
Grado di protezione <i>Protection class</i>	<b>IP 65 EN 60529</b>
Classe di isolamento <i>Insulation class</i>	<b>VDE 0110-1/89</b>
Guarnizione <i>Sealing material</i>	<b>NBR</b>
Temperatura di esercizio <i>Operating temperature</i>	<b>-40C +90C</b>
Peso approssimativo <i>Approx weight</i>	<b>0,025 Kg</b> 0.055 lb

<b>Connettore standard</b> <i>Standard Connector</i>	
Codice (Code): <b>88100002</b>	EN 175301-803
Tensione nominale <i>Nominal voltage</i>	<b>AC - Max 250 V</b> <b>DC - Max 300 V</b>
Corrente nominale contatti <i>Nominal current</i>	<b>10 A</b>
Corrente max contatti <i>Max operating current</i>	<b>16 A</b>
Resistenza contatti <i>Contact resistance</i>	<b>≤ 4m Ohm</b>
Sezione max conduttori <i>Max conductors cross-section</i>	<b>1,5 mm<sup>2</sup></b>
Protezione <i>Housing</i>	<b>PA (+G)</b>
Tipo di serracavo <i>Gland size options</i>	<b>Pg11</b>
Diamentro cavo <i>Cable diameter</i>	<b>6-8 mm</b>
Grado di protezione <i>Protection class</i>	<b>IP 65 EN 60529</b>
Classe di isolamento <i>Insulation class</i>	<b>VDE 0110-1/89</b>
Guarnizione <i>Sealing material</i>	<b>NBR</b>
Temperatura di esercizio <i>Operating temperature</i>	<b>-40C +90C</b>
Peso approssimativo <i>Approx weight</i>	<b>0,020 Kg</b> 0.044 lb