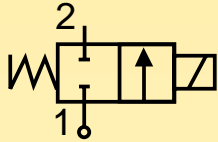


Solenoid Valves for Automation

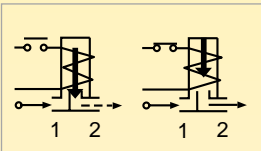
2/2 way - Normally Closed - Direct operated

Fittings: G = 1/8" - 1/4"

Series **146**



N.C.
Normally closed
Coil energised - open
Coil de-energised - closed



General description:

PARKER series **146** solenoid valves are direct operated and do not require a minimum differential pressure to operate. They are used for general applications with media such as **water, air, light oils (2°E) and inert gases**, provided they are compatible with the construction materials used. Series **146** valves are **normally closed**.

Temperatures:

The working temperature for media is:

| | |
|---------|--------|
| maximum | +140°C |
| minimum | -10°C |

The maximum ambient temperature is:

- with class "F" coils +50°C
- with class "H" coils +80°C

Application:

Series **146** solenoid valves are ideal for the automatic control of media in a wide range of applications such as:

- Burglar alarm systems;
- Sterilisers;
- Espresso coffee machines;
- Diesel oil burners;
- Shoe manufacturing machinery;
- Ceramic plants;
- Air dryers;
- Automatic dispensers;
- Industrial washing machines;
- Water massage systems;
- Floor washing machines;
- Welding systems;
- Machines for plastics;
- Humidifiers.

For use with air the maximum differential pressure (MOPD) may be increased by 25%.



Coils:

For series **146** valves class "F" coils (**155°C**), encapsulated in thermoplastic containing 30% glass fiber (type ZB, YB), and class "H" coils (**180°C**), encapsulated in thermoplastic containing 40% glass fiber (type: ZH), are available.

All the coils are for continuous service, 100% E.D.

The rated voltage tolerance is:
±10% for A.C. power supply and
+10% -5% for D.C.

The "Z" and "Y" coils can be used on a.c. with frequency of 50/60Hz (dualfrequency).

The "Z" coils have Faston terminals for **DIN 43650A** connectors with protection to **IP65**.

The "Y" coil has terminals with 2 x 1,000 mm cables with protection to **IP67**.

Installation:

The valves can be mounted in any position without jeopardising their operation. It is however advisable to install them with the coil in a vertical position above the body.

Approvals:



- Coil certification:

ZB 09 24V/50-60Hz, 115V/50-60Hz, 220-230V/50-60Hz, 240V/50-60Hz

ZB 12 12V DC, 24V DC

ZB 14 24V/50-60Hz, 115V/50-60Hz, 220-230V/50-60Hz,

ZB 16 24V DC

YB 09 220-230V/50-60Hz

YB 14 only voltage 220/50-60Hz

YB 16 24V DC



- For the coils:

ZB 09 220-230V/50-60Hz, 240V/50-60Hz

ZB 14 220-230V/50-60Hz

YB 09 220-230V/50-60Hz



- For the model VE 146.3 ABV with coil

ZH 14 with voltage 220-230V/50-60Hz



- UL Recognized Comp. Mark for coils:

ZB 09 24V/60Hz, 110-120V/60Hz, 208-240V/60Hz

YB 09 24V/60Hz, 110-120V/60Hz, 208-240V/60Hz

Special versions:

On request and for large orders, the series **146** valves can be fitted with quick connect fittings such as **Prestolock** cartridge.

Series **146**

for: water - air - light oils (2°E) - inert gases

| MATERIALS | • Valve body: | OT58 UNI 5705 brass stamping |
|---------------------|-------------------|------------------------------|
| | • Seals: | Viton |
| ELECTRICAL FEATURES | • Enclosing tube: | AISI 304 stainless steel |
| | • Plunger: | AISI 430 F stainless steel |
| | • Spring: | AISI 302 stainless steel |
| | • Shading ring: | Copper |

| Coil type [] | Power [W] | | Insulat. class | |
|------------------|----------------|---------|-------------------|---|
| | A.C.(~) | D.C.(=) | | |
| ZB 09 | ZB 12 | 9 | 12 | F |
| ZB*14 | ZB*16 | 14 | 16 | F |
| YB 09 | YB 12 | 9 | 12 | F |
| YB*14 | YB*16 | 14 | 16 | F |
| ZH*14 | ZH*16 | 14 | 16 | H |

| SPECIFICATION | Fittings Ø G | Valve type | Nominal orifice Ø | Flow coefficient Kv | Minimum pressure | Max differential pressure (M.O.P.D.) | | Coil type | Weight | Notes |
|---------------|-----------------|---------------|----------------------|------------------------|---------------------|---|---------------------|--------------|--------|-------|
| | ["] | [] | [mm] | [m³/h] | [bar] | in A.C.(~) [bar] | in D.C.(=) [bar] | [] | [Kg] | [] |
| | 1/8 | 146 F | 2,5 | 0,197 | 0 | 15 | 12 | Z - Y | 0,340 | 1 |
| 1/8 | 146 H | 3,0 | 0,270 | 0 | 10 | 8 | Z - Y | 0,340 | 1 | |
| 1/4 | 146 W | 2,5 | 0,197 | 0 | 15 | 12 | Z - Y | 0,340 | 1 | |
| 1/4 | 146 Y | 3,0 | 0,270 | 0 | 10 | 8 | Z - Y | 0,340 | 1 | |
| 1/4 | 146.3 K | 4,5 | 0,527 | 0 | 10 | 3 | Z* - Y* | 0,340 | 1 | |
| 1/4 | 146.3 AB | 6,0 | 0,750 | 0 | 8 | 1 | Z* - Y* | 0,340 | 1 | |

Note: 1) NP (nominal pressure): 64 bar

See specification table.

| DIMENSIONS | Fittings Ø G | A | B | C | D |
|------------|--------------|------|------|------|------|
| | ["] | [mm] | [mm] | [mm] | [mm] |
| | *1/8 | 40,0 | 74,5 | 18 | 37,5 |
| 1/4 | 40,0 | 74,5 | 18 | 37,5 | |
| *1/4 | 40,0 | 74,5 | 18 | 37,5 | |

* excluded mod. 146.3K - 146.3AB

| ORDER CODE | PM | 146 | V | [V] | [Hz] / d.c. | | | | | |
|------------|------------|----------|------|-----------|--------------|-------------------|----------------------|------------------|-----------|-----------|
| | VALVE BODY | FITTINGS | SEAL | Coil type | 24 V / 60 Hz | 115V / 50/60 Hz | 220-230 V / 50/60 Hz | 240 V / 50/60 Hz | 12 V d.c. | 24 V d.c. |
| | SERIES | F 1/8" | V | Viton | ZB 09 | • | • | • | • | |
| | H 1/8" | | | ZB 12 | | | | | • | • |
| | W 1/4" | | | ZB 14 | • | • | • | • | | |
| | Y 1/4" | | | ZB 16 | | | | | | • |
| | .3K 1/4" | | | YB 09 | • | • | • | | | |
| | .3AB 1/4" | | | YB 12 | | | | | • | • |
| | | | | YB 14 | • | | • | | | |
| | | | | YB 16 | | | | | | • |
| | | | | ZH 14 | • | • | • | | | |
| | | | | ZH 16 | | | | | | • |
| | | | | Coil type | 24 V / 60 Hz | 110-120 V / 60 Hz | 208-240 V / 60 Hz | | | |
| | | | | ZB 09 UL | • | • | • | | | • |
| | | | | YB 09 UL | • | • | • | | | • |

Note: Valve supplied with body (PM) and coil separate. Connector to be ordered separately.

Technical information

Z coil

Coil manufactured from **class H** copper wire, moulded in thermoplastic:

- (polyester) with 30% glass fiber (**type ZB**);
- (polyphenylene) with 40% glass fiber (**type ZH**).

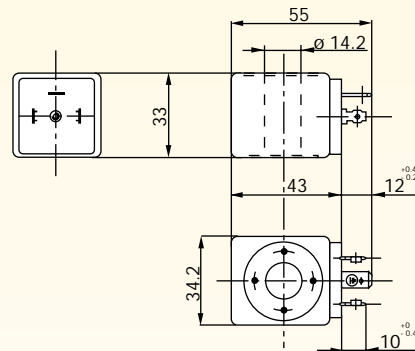
Features:

| | |
|-------------------|----------------------------------|
| Protection | DIN 40050 = IP 65 with connector |
| Connector | DIN 43650 A - PG 9 or PG 11 |
| Frequency | 50/60 Hz |

Types available:

* **IMQ, VDE, UL** approved for standard voltages

- Class F (155°C)
 - ZB09 = 16 VA - 9 W a.c. Service (25 VA - Inrush)
 - ZB12 = 12 W d.c.
 - ZB14 = 25 VA - 14 W a.c. Service (33 VA - Inrush)
 - ZB16 = 16 W d.c.
- Class H (180°C)
 - ZH14 = 25 VA - 14 W a.c. - Service (33 VA - Inrush)
 - ZH16 = 16 W d.c.



Y coil

Coil manufactured from **class H** copper wire, moulded in thermoplastic:

- (polyester) with 30% glass fiber;

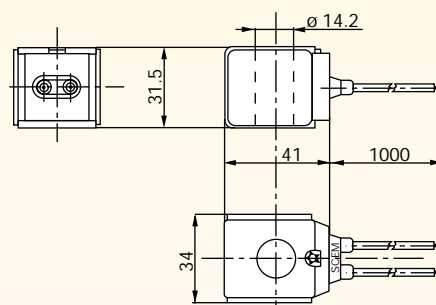
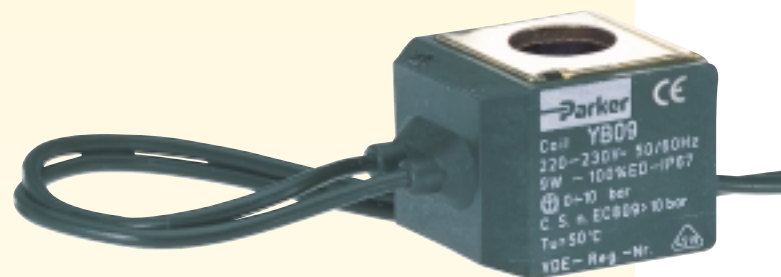
Features

| | |
|------------------------------|--------------------|
| Protection | DIN 40050 = IP 67 |
| Electrical connection | two 1000 mm cables |
| Frequency | 50/60 Hz |

Types available:

* **IMQ, VDE, UL** approved for standard voltages

- Class F (155°C)
 - YB09 = 15 VA - 9 W a.c. Service (24 VA - Inrush)
 - YB12 = 12 W d.c.
 - YB14 = 24 VA - 14 W a.c. Service (32 VA - Inrush)
 - YB16 = 16 W d.c.
- Class E (120°C)
 - YEO9 = 15 VA - 9 W a.c.



Note: recommended for applications where humidity is particularly severe and where ice formation or defrosting may occur.