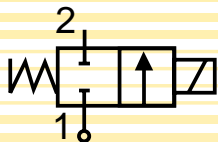


# Solenoid Valves for Automation

2/2 way - Normally Closed - Direct operated

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

Series **146**

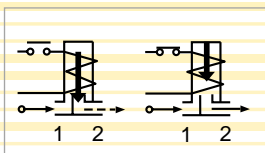


N.C.

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

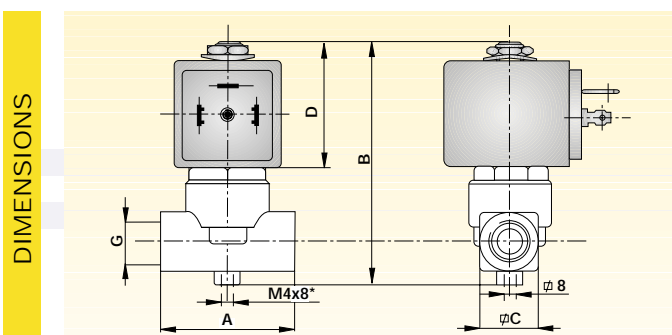
MATERIALS	• Valve body:	OT58 UNI 5705 brass stamping
	• Seals:	Viton
	• Enclosing tube:	AISI 304 stainless steel
	• Plunger:	AISI 430 F stainless steel
	• Spring:	AISI 302 stainless steel
	• Shading ring:	Copper

ELECTRICAL FEATURES	Coil type [ ]		Power [ W ]		Insulat. class
	A.C.(~)	D.C.(=)	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.(~)	in D.C.(=)	[ ]	[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.



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 50/60 Hz
		F 1/8"			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	•
	SERIES				Coil type	24 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**).

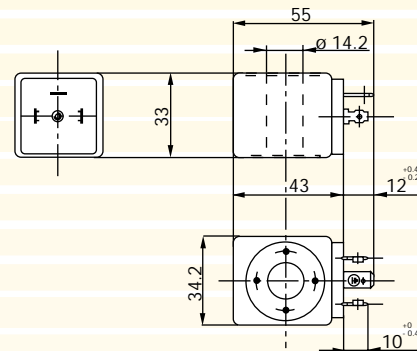
### Features:

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

### Types available:

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

- 1) 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.
- 2) 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;

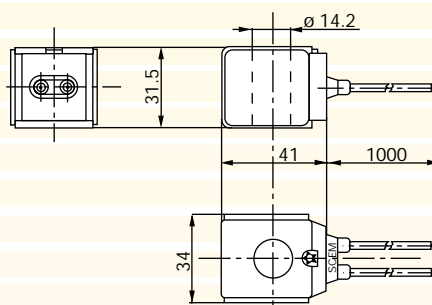
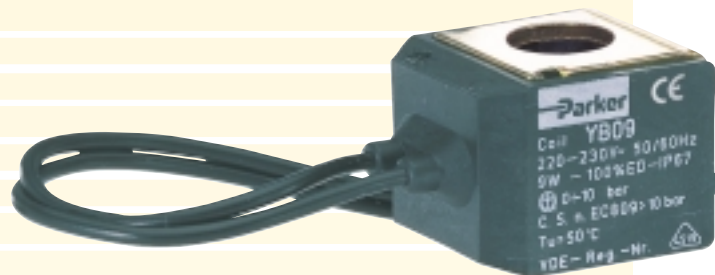
### Features

<b>Protection</b>	DIN 40050 = IP 67
<b>Electrical connection</b>	two 1000 mm cables
<b>Frequency</b>	50/60 Hz

### Types available:

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

- 1) 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.
- 2) 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.