

Data Sheet

# Coils

for VDH and VDHT valves



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## 1. Introduction

The coils for the Danfoss High-Pressure Pumps valves are high-performance and reliable coils based on more than 50 years manufacturing of solenoid valves.

The coils are designed for the VDH and VDHT High-Pressure solenoid valve program and are available with many different options.

For information about other coil types not listed in this data sheet, please contact the Danfoss High-Pressure Systems sales department.

The Clip-on fastening system ensures a faultless installation. A Danfoss Clip-on coil can be mounted without the use any tools, and it is simple to dismount the coil by means of a screwdriver.

**2. BB Coil**

**2.1 Features**

- 11 W AC
- 16 W DC
- Clip-on version
- Windings of class H insulated wire moulded in the coil body
- Ambient temperature: Up to +80 °C
- All usual AC and DC voltages
- IP00 version with spade connector in accordance with DIN 43650, form A.
- IP20 version with protective cap
- IP65 version with mounted cable plug
- Standard coils available with 3 core cable, for DIN plugs
- Coils can be fitted without the use of tools
- Coils can only be removed with the use of tools



**2.2 Technical data**

Design	In accordance with VDE 0580
Voltage tolerance	220/380V AC coils: +15%, -15%. 230/400V AC coils: +6%, -10%. Other AC coils with NC valve: +10%, -15% Other AC coils with NO valve and all DC coils: ± 10%
Power consumption, cut-in	AC: 44 VA
Power consumption, holding	AC: 19 VA, 11 W / DC: 16 W
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with spade connec., IP20 with protective cap, IP65 with cable plug
Ambient temperature	Max. +50 °C / +80 °C - see table below for details
Duty rating	Continuous

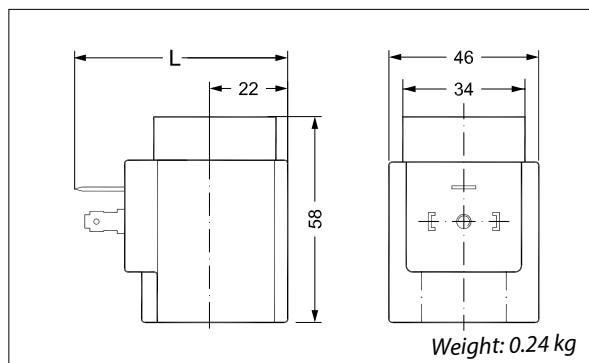
**2.3 Code numbers**

Power consumption holding	Coil type	Ambient temperature	Supply voltage	Code no.
11 W AC	BB024AS	max. +80 °C	24 V, 50 Hz	018F7905
	BB240AS	max. +80 °C	240 V, 50 Hz	018F7906
16 W DC	BB024DS	max. +50 °C	24 V DC	018F7928

Contact Danfoss for delivery of coils for other voltages

	Description	Enclosure	Code no.
	Cable plug according to EN175301-803A, PG 9	IP67	042N1256 <sup>1)</sup>
	Cable plug according to EN175301-803A, PG 8	IP65	042N1278 <sup>1)</sup>

<sup>1)</sup> Code nos. to be ordered in Danfoss Sensing Solutions (PL04)

**2.4 Dimensions and weight**


	L
Without cable plug	62 mm
With protective cap	77 mm
With cable plug	85 mm

## Data sheet | Coils for VDH and VDHT valves

### 3. BY, High performance coil for UL recognized valves



#### 3.1 Features

- Encapsulated coils with long operation life, even under extreme conditions
- Standard coils for AC
- Standard coils available with DIN spade terminals
- Standard coils from 24 V to 240 V and 50/60 Hz
- Coils can be fitted without the use of tools
- Cable plugs must be ordered separately from the coils



#### 3.2 Technical data

Approvals	UL recognized with VDH and VDHT	
Permissible voltage variation	12- 16 W AC coils:	±10%
Enclosure, IEC 529	IP65 (≈ NEMA 4X) with DIN plug 042N0156	
Ambient temperature	14 W AC coil for NC valve:	-40 --> +122 °F (-40 --> +50 °C)

#### 3.3 Code numbers

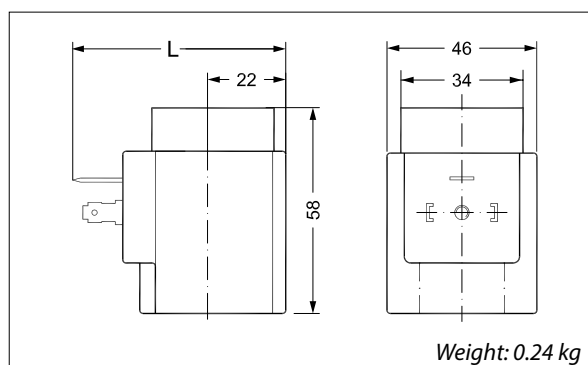
Power consumption holding	Coil type	Ambient temperature	Supply voltage	Code no.
14/12 W AC	BY024CS	max. +122 °F	24 V, 50/60 Hz	018F7907
14 W AC	BY120CS	max. +122 °F	110 V, 110-120V 50/60 Hz	018F7909
16/14 W AC	BY240CS	max. +122 °F	230V, 208-240 V, 50/60 Hz	018F7908

Contact Danfoss for delivery of coils for other voltages

	Description	Enclosure	Code no.
	Cable plug according to EN175301-803A, PG 9	IP67	042N1256 <sup>1)</sup>
	Cable plug according to EN175301-803A, PG 8	IP65	042N1278 <sup>1)</sup>

<sup>1)</sup> Code nos. to be ordered in Danfoss Sensing Solutions (PL04)

#### 3.4 Dimensions and weight



	L
Without cable plug	62 mm
With protective cap	77 mm
With cable plug	85 mm

**4. BE Coil**

**4.1 Features**

- 10 W AC
- 16 W DC
- Clip-on version
- Encapsulated coils with long operation life
- Ambient temperature: Up to +80 °C
- Suitable for moist environments
- All usual AC and DC voltages
- IP67 version with terminal box
- IP67 version with 3-core flying lead
- Coils can be fitted without the use of tools
- Coils can only be removed with the use of tools

**4.2 Technical data**

Design	In accordance with VDE 0580
Voltage tolerance	220/380V AC coils: +10%, -15%. 230/400V AC coils: +6%, -10%. Other AC coils with NC valve: +10%, -15% Other AC coils with NO valve and all DC coils: ± 10%
Power consumption, cut-in	AC: 44 VA
Power consumption, holding	AC: 21 VA, 10 W / DC: 16 W
Insulation of coil windings	Class H according to IEC 85
Connection	Terminal box; PG 13.5 - on 3-core flying lead
Enclosure, IEC 529	IP67
Ambient temperature	Max. +50 °C / +80 °C - see table below for details
Duty rating	Continuous

**4.3 Code numbers**

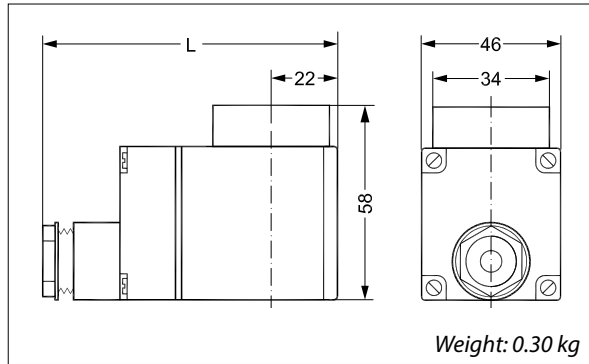
Power consumption holding	Coil type	Ambient temperature	Supply voltage	Code no. With terminal box	Code no. With cable	Code no. Without terminal box
12 W AC	BE024AS	max. +80 °C	24 V, 50 Hz	018F7920		
10 W AC	BE042AS	max. +80 °C	42 V, 50 Hz	018F7927		
10 W AC	BE048AS	max. +80 °C	48 V, 50 Hz		018F7915 (4 m)	
12 W AC	BE230AS	max. +80 °C	220–230 V, 50 Hz	018F7921		
11 W AC	BE240AS	max. +80 °C	240 V, 50 Hz	018F7924	018F8205 (3 m)	018F7917
14 W AC	BE024BS	max. +80 °C	24 V, 60 Hz	018F7922		
13 W AC	BE220BS	max. +80 °C	220 V, 60 Hz	018F7925		
11/15 W AC	BE240BS	max. +80 °C	200–240 V, 50/60 Hz	018F7926		
15/13 W AC	BE110CS	max. +50 °C	110 V, 50/60 Hz	018F7923		
10 W AC	BE200CS	max. +50 °C	200 V, 50/60 Hz	018F7929		018F7918
17/14 AC	BE230CS	max. +50 °C	220–230 V, 50/60 Hz	018F7919		
15 W DC	BE012DS	max. +50 °C	12 V	018F7913		
16 W DC	BE024DS	max. +50 °C	24 V	018F7914		018F7912

Contact Danfoss for delivery of coils for other voltages

	Description	Code no.
Terminal box with LED indication	48–220 V DC 24–250 V AC, 50/60 Hz	018Z0089 <sup>1)</sup>
Terminal box	100 pcs package	018Z0279

<sup>1)</sup> Code nos. to be ordered in Danfoss Sensing Solutions (PL04)

4.4 Dimensions and weight



	<b>L</b>
With terminal box	94 mm
With 1 m cable	65 mm

## 5. BO Coil



### 5.1 Features

- 10 W DC
- For explosion-risk environments, such as where flammable liquids and gases are produced, transported or tapped
- Approvals for use in Zone 1 according to Directive 2014/34/EU
- Medium temperature: Up to +90 °C
- Ambient temperature: Up to +60 °C
- IP67 version with 5m 3-core flying lead
- Seal kit as accessory for extremely wet and aggressive environments (please contact Danfoss)

### 5.2 Technical data

Voltage tolerance	± 10%
Power consumption, holding	DC: 10 W
Insulation of coil windings	Class H according to IEC 85
Connection	5 m 3-core flying lead
Enclosure, IEC 529	IP67
Media temperature	Max. +90 °C
Ambient temperature	Max. +60 °C
Duty rating	Continuous

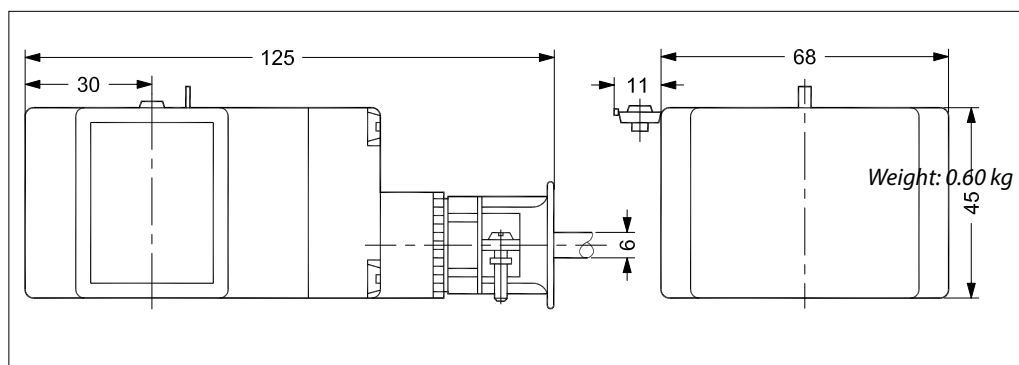
### 5.3 Code numbers

Power consumption holding	Coil type	Supply voltage	Code no.
10 W AC	BO024C	24 V, 50/60 HZ	018Z6595 <sup>1)</sup>
10W AC	BO110C	110 V, 50/60 Hz	018Z6593 <sup>1)</sup>
10 W AC	BO230C	230 V, 50/60Hz	018Z6592 <sup>1)</sup>
10 W AC	BO240C	240V, 50/60 Hz	018Z6591 <sup>1)</sup>
10 W DC	BO024D	24 V DC	018Z6596 <sup>1)</sup>


NC/NO Seal kit included

<sup>1)</sup> Code nos. to be ordered in Danfoss Sensing Solutions (PL04)

### 5.4 Dimensions and weight



**6. Permanent magnet**

	Coil type	Code no.
	Permanent magnet for testing	180Z0212

Code no. show on the coil	Coil type	Comment	High pressure pumps ordering Code no.
		Terminal box incl screws and seal	018Z0279
	Spare parts	Seal kit NC	018Z0093
018F6032	BE230CS		018F7919
018F6715	BE024BS		018F7922
018F6081	BE200CS		018F7929
018F6081	BE200CS	Excl. terminal box	018F7918
018F6708	BE042AS		018F7927
018F6176	BE230AS		018F7921
018F6177	BE240AS		018F7924
018F6177	BE240AS	Excl. terminal box	018F7917
018F6182	BE024AS		018F7920
018F6709	BE048AS	With 4 m cable	018F7915
018F6713	BE240BS		018F7926
018F6189	BE220BS		018F7925
018F6192	BE110CS		018F7923
018F6756	BE012DS		018F7913
018F6757	BE024DS		018F7914
018F7352	BB240AS	For DIN plug (excl. plug) hirshman	018F7906
018F7358	BB024AS	For DIN plug (excl. plug) hirshman	018F7905
018F7397	BB024DS	For DIN plug (excl. plug) hirshman	018F7928
018F7655	BY024CS	UL recognized	018F7907
018F7658	BY240CS	UL recognized	018F7908
018F7663	BY	UL recognized	018F7909
018Z6591	BO240C	Ex mb IIC T4 Gb / ITS 09 ATEX 16835X	018Z6591 <sup>1)</sup>
018Z6592	BO230C	Ex mb IIC T4 Gb / ITS 09 ATEX 16835X	018Z6592 <sup>1)</sup>
018Z6593	BO110C	Ex mb IIC T4 Gb / ITS 09 ATEX 16835X	018Z6593 <sup>1)</sup>
018Z6595	BO024C	Ex mb IIC T4 Gb / ITS 09 ATEX 16835X	018Z6595 <sup>1)</sup>
018Z6596	BO024D	Ex mb IIC T4 Gb / ITS 09 ATEX 16835X	018Z6596 <sup>1)</sup>
042N1256	Cable plug	DIN plug for BY and BB (hirshman)	042N1256 <sup>1)</sup>
042N1278	Cable plug	DIN plug for BY and BB (hirshman)	042N1278 <sup>1)</sup>

<sup>1)</sup> Code nos. to be ordered in Danfoss Sensing Solutions (PL04)





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