ENGINEERING
TOMORROW

Data sheet

# Power Pack Valve
## VPH 15E

hpp.danfoss.com

## Table of Contents

Contents

1. Introduction ....2
2. Features....2
3. Technical data.... 2
4. Description.... 4
5. Filtration.... 4
6. Code numbers.... 4
7. Dimensions [mm]....5
8. Installation.... 5
9. Spare parts.... 6

## 1. Introduction

Power Pack valve VPH 15 E is multifunction unit which reduces the costs of connections and hoses/tubes by incorporating the functions of a pressure relief valve and a directional control valve to provide a bypass function.

The pressure relief function is designed to limit the system pressure by draining surplus water flow from the pressure side, and to protect system components against overload as a result of pressure peaks.

The valves are electrically-activated ON/OFF valves (closed (NC) or open (NO) when the coil is de-energized).

The VPH 15 E valve is designed for use with drinking water, i.e. water containing no additives of any kind. (See EU drinking water directive EU 98/83/EC).

**If the recommendations in the manual are not followed, Danfoss reserves the right to void the warranty.**

## 2. Features

- High enclosure, IP 67
- Corrosion-proof materials (stainless steel, AISI 304/W.No. 1.4301 and plastic)
- The seat valve design ensures a tight seal
- Easy-to-clean surfaces.

## 3. Technical data

| | |
|---|---|
| Adjustable pressure range | 10-210 bar |
| Nom. flow | 15 l/min |
| Max. flow | 20 l/min |
| Max. fluid temperature | 50°C |
| Opening time at nom. flow | 90 ms |
| Closing time at nom. flow | 350 ms |
| Pressure drop | see graph page 3 |
| Weight | 3 kg |
| Ambient temperature | 0°C to +50°C |
| Fluid temperature [1)] | -30°C to +50°C |
| Storage temperature | -40°C to +70°C |

[1)] At fluid temperature below +3°C, antifreeze additives must be added to fluid.

*Relief valve*

Max. flow: 20 l/min
Pressure setting range: 10 to 40 bar, 25 to 140 bar, 45 to 210 bar

*2/2-way valve*

Max. flow: 20 l/min
Max. pressure for NO: 140 bar
Max. pressure for NC: 210 bar

Static characteristic:

## 4. Description

*VPH 15 E - NO*

*VPH 15 E - NC*

P: G ⅜ – pressure from pump or pressure line to system

T: G ⅜ – tank return line from system or return line to filter

M: G ⅜ (plugged) – pressure gauge

W: G ¼ (plugged) – water inlet

| No. | Item | Description |
|---|---|---|
| 1 | Directional valve | 2/2-way valve, electrically activated |
| 2 | Pressure relief valve | Manuel setting |
| 3 | Power pack valve | Directional valve + relief valve |

## 5. Filtration

The water supplied to the valve must be filtered: 10 µm abs., $\beta_{10}$ -value > 5000 filter is recommended.

## 6. Code numbers

| Power pack valve | Comments | Code No. |
|---|---|---|
| VPH 15 E - NO | Pressure range 25 to 140 bar | 180G0040 |
| VPH 15 E - NC | Pressure range 25 to 140 bar | 180G0041 |
| VPH 15 E - NC | Pressure range 45 to 210 bar | 180G0044 |
| VPH 15 E - NO | Pressure range 10 to 40 bar | 180G0042 |
| * Coils for bypass valve, please order seperately | | |

| Coil | Coils (clip-on) (NC + NO) |
|---|---|
| 24 V/50 Hz/12 W | 018F7920 |
| 220 V/50 Hz/12 W | 018F7921 |
| 240 V/50 Hz/11 W | 018F7924 |
| 24 V/60 Hz/14 W | 018F7922 |
| 220 V/60 Hz/13 W | 018F7925 |
| 240 V/60 Hz/15 W | 018F7926 |
| 110 V/50/60 Hz/15 W | 018F7923 |
| 12 V d.c./15 W | 018F7913 |
| 24 V d.c./16 W | 018F7914 |

For other voltages, please contact Danfoss Sales Organisation for High-Pressure Pumps.

## 7. Dimensions [mm]

*VPH 15 E*

P : G 3/8 Pressure
T : G 3/8 Pressure
W : G 1/4 Filling

| | A | B |
|---|---|---|
| NO+NC | 69 | 45 |
| EEX | 91 | 68 |

## 8. Installation

The valve must be installed as illustrated below.

*Mounting direction*

## 9. Spare parts

| For the directional valve function | Code number |
|---|---|
| Armature kit NC | 180L5002 |
| Armature kit NC (210 bar) (for 180G0044) | 180L5011 |
| Armature kit NO | 180L5010 |
| Orifice kit for VPH 15 E | 180Z0099 |
| Poppet kit for VPH 15 E | 180L5005 |
| | |
| **For the relief valve function** | |
| Valve seat and cone kit (10-40 bar) & (25-140 bar) | 180G4000 |
| Valve seat and cone kit (45-210 bar) | 180G4005 |
| Seal and spring kit (10-40 bar) | 180G4002 |
| Seal and spring kit (25-140 bar) & (45-210 bar) | 180G4004 |
| Guide and guide pin | 180G4001 |
| Tool for dismount guide | 180G4003 |

**Danfoss A/S**
High Pressure Pumps • danfoss.com • +45 7488 2222 • highpressurepumps@danfoss.com

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material.
Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product.
All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.