

Data Sheet

Shut-off valve
Type **QDV 15**

Quick Closing Drain Valve designed particularly for draining oil from systems



QDV is a shut-off valve, designed particularly for draining oil from systems containing refrigerant (ammonia) under pressure.

The valve will close immediately on release of the handle, thus protecting user and environment against unnecessary refrigerant leaks. The valve should as a rule be installed as illustrated in fig. 1.

In order to prevent hydraulic pressure building up between the stop valve and the QDV an integral relief device is included as part of the cone arrangement, which will open at approx. 16 bar (232 psig).

QDV is designed to meet the safety demands specified by national and international authorities within industrial refrigeration.

Features:

- Applicable to R717 (ammonia)
- Meets the safety demands within industrial refrigeration
- Handle can be positioned 360°
- Built-in integral relief device opening when 16 bar (232 psig) is exceeded. (preventing hydraulic pressure building up between shut-off valve and QDV)
- Can be supplied together with a stop valve for quick on site mounting (fig. 1)
- Max. operating pressure: 40 bar (580 psig)
- Temperature range: -50 °C – +150 °C (-58 °F – +302 °F)
- Classification: DNV, CRN, BV, EAC etc. To get an updated list of certification on the products please contact your local Danfoss Sales Company.

Media

Refrigerants

Liquid refrigerant can be trapped between the stop valve and drain valve causing an unsafe, high-pressure situation, or potentially damaging either valve.

The internal relief device in the Danfoss QDV allows refrigerant to slowly bleed if internal valve pressure exceeds 16 bar (232 psig). Further, the valve is easily actuated by hand (without tools), and has an internal spring mechanism to instantly close the valve if the actuator is let go. All QDV valves are in angle orientation with FPT outlet, suitable for safe draining.

New refrigerants

Danfoss products are continually evaluated for use with new refrigerants depending on market requirements.

When a refrigerant is approved for use by Danfoss, it is added to the relevant portfolio, and the R number of the refrigerant (e.g. R513A) will be added to the technical data of the code number. Therefore, products for specific refrigerants are best checked at store.danfoss.com/en/, or by contacting your local Danfoss representative.

Product specification

Pressure and temperature data

QDV is a backpressure dependent valve. If any tube or hose is mounted on the outlet of the QDV it has to be calculated to prevent back pressure building up when relieving.

For further information please see installation guide for QDV. Flammable hydrocarbons are not recommended, for further information please contact your **local Danfoss Sales Company**.

Figure 1: QDV

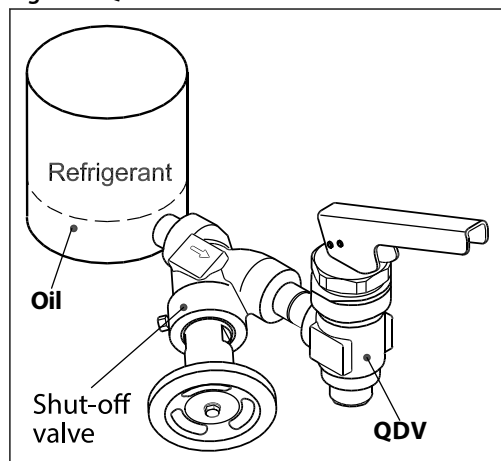


Table 1: Pressure and temperature

| | |
|----------------------------|-----------------------------------|
| Temperature range | -50 °C – 150 °C (-58 °F – 302 °F) |
| Maximum operating pressure | 40 bar (580 psig) |

Material specification

Figure 2: QDV 15

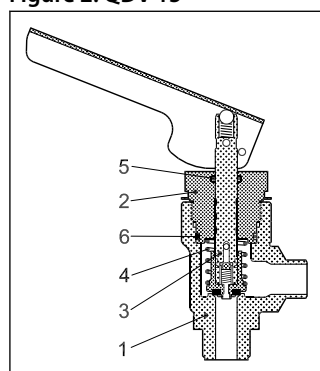


Table 2: QDV 15

| No. | Part | Material | DIN/EN | ASTM |
|-----|--------------|---------------------------------|-----------------------|-----------|
| 1 | Housing | Steel | G20Mn5QT EN10213-3 | LCC A352 |
| 2 | Bonnet | Steel St37-2 | S235JR EN 10025 | AISI 1015 |
| 3 | Spindle/Cone | Stainless steel X10CrNiS18-9 | S189 EN 10088-3 | AISI 303 |
| 4 | Spring | Steel | | |
| 5 | O-ring | Cloroprene | | |
| 6 | O-ring | Cloroprene | | |

Shut-off valve, Type QDV 15

Figure 3: Hose connection for outlet

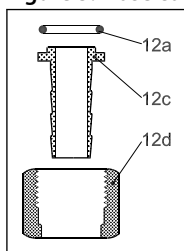


Table 3: Hose connection for outlet

| No. | Part | Material |
|-----|---------------------------|-----------------------|
| 12a | O-rings | Cloroprene (Neoprene) |
| 12c | Stub for hose - OD Ø15 mm | Steel |
| 12d | Union nut - G 3/4" | Steel |

Figure 4: Welding nipple connection for outlet

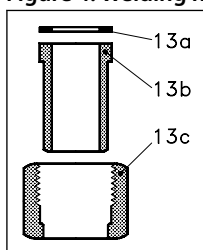


Table 4: Welding nipple connection for outlet

| No. | Part | Material |
|-----|------------------------------|----------------|
| 13a | Al-packing | Aluminium |
| 13c | Welding nipple - OD Ø21.3 mm | Steel (S235JR) |
| 13d | Union nut - G 3/4" | Steel |

Connections

Table 5: Available with the following connections:

| Inlet | Outlet |
|------------------------------------|-----------------------------------|
| Welding DIN (EN 10220) | G 3/4 in. pipe thread (ISO 228/1) |
| 1/2 in. FPT | 1/2 in. FPT |
| 3/4 in. FPT | 3/4 in. FPT |
| Optional extras for outlet: | |
| Welding nipple DIN (EN 10220) | |
| Hose connection | |

i NOTE:

Other types of connection are available on request.

QDV - SVA combination

Combinations of the QDV together with a dedicated SVA have been established for easy selection. Please see page 6 to find the code numbers for these combinations.

Installation

For further information refer to installation guide for QDV.

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Figure 5: QDV 15 DIN 15

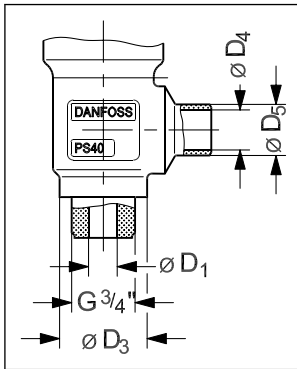


Figure 6: QDV 15 1/2" FPT

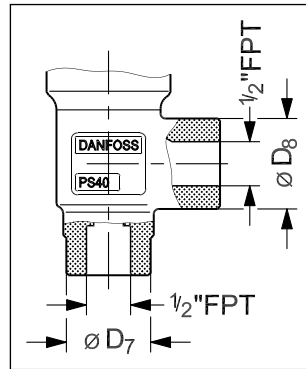


Figure 7: QDV 15 3/4" FPT

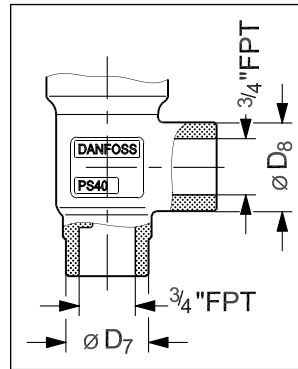


Figure 8: QDV 15 DIN 15

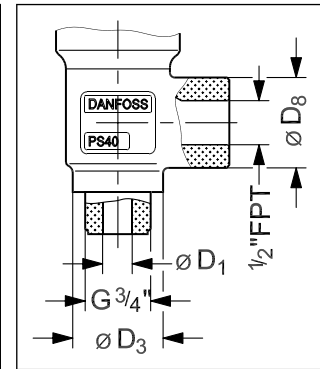


Table 6: QDV 15 DIN 15

| Type | | ØD1 | ØD3 | ØD4 | ØD5 |
|---------------|-----|------|------|------|------|
| QDV 15 DIN 15 | mm | 12 | 36.5 | 16.7 | 21.3 |
| | in. | 0.47 | 1.44 | 0.66 | 0.84 |

Table 7: QDV 15 1/2" FPT

| Type | | ØD7 | ØD8 |
|-----------------|-----|------|------|
| QDV 15 1/2" FPT | mm | 34 | 36.5 |
| | in. | 1.34 | 1.44 |

Table 8: QDV 15 3/4" FPT

| Type | | ØD7 | ØD8 |
|-----------------|-----|------|------|
| QDV 15 3/4" FPT | mm | 34 | 36.5 |
| | in. | 1.34 | 1.44 |

Table 9: QDV 15 DIN 15

| Type | | ØD1 | ØD3 | ØD8 |
|---------------|-----|------|------|------|
| QDV 15 DIN 15 | mm | 12 | 36.5 | 34 |
| | in. | 0.47 | 1.44 | 1.34 |

Dimensions and weight

Figure 9: QDV 15 (stand alone)

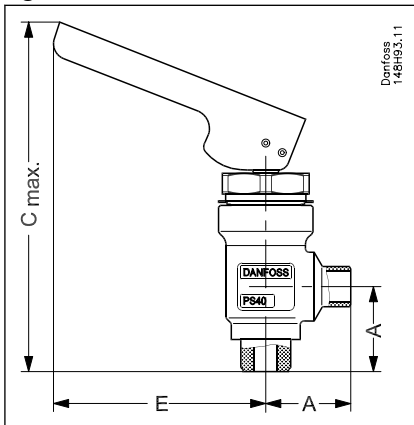


Figure 10: QDV 15 mounted on SVA valve

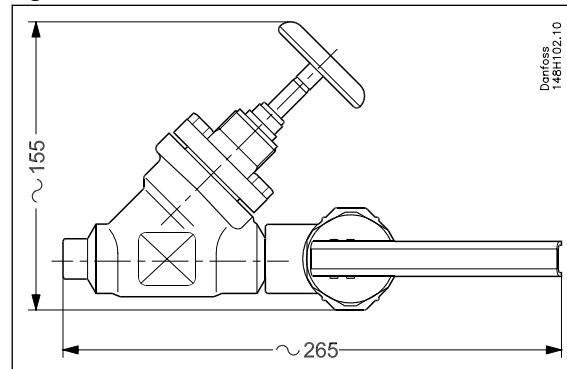


Table 10: Dimensions

| Valve size | | A | C _{max} | E |
|------------|-----|------|------------------|------|
| QDV 15 | mm | 45 | 185 | 109 |
| | in. | 1.77 | 7.28 | 4.29 |

Ordering

How to order: The table below is used to identify the valve required

Table 11: Ordering

| Type | Inlet | Outlet | Code no. |
|---|-------------|-------------|-----------------|
| QDV 15 DN 15 | DN 15 | G 3/4 in. | 148H3272 |
| QDV 15 1/2 in. FPT | 1/2 in. FPT | 1/2 in. FPT | 148H3273 |
| QDV 15 3/4 in. FPT | 3/4 in. FPT | 3/4 in. FPT | 148H3274 |
| QDV 15 DN 15 + SVA-S DN 15 H-WHEEL ⁽¹⁾ | DN 15 | G 3/4 in. | 148H3310 |
| QDV 15 1/2 in. FPT + SVA-S SOC 1/2 in. H-WHEEL ⁽¹⁾ | 1/2 in. SOC | 1/2 in. FPT | 148H3311 |
| Fittings for hose connection - G 3/4" | | | 148H3451 |
| Fittings for welding connection - G 3/4" | | | 148H3452 |

⁽¹⁾ Two valves are supplied in one box and should be mounted on site. The indicated inlet is for the stop valve - The indicated outlet is for the oil drain valve.

i NOTE:

Where products need to be certified according to specific certification societies or where higher pressures are required, please contact [Danfoss Learning](#).

Certificates, declarations, and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Table 12: Valid Approvals

| File name | Document type | Document topic | Approval authority |
|----------------------|---------------------------------|-----------------------|--------------------|
| UA.089.D.00195-15 | | | LLC CDC EURO-TYSK |
| 033F0691.AC | | | Danfoss |
| 033F0691.AA | | | Danfoss |
| 033F0686.AB | | | Danfoss |
| 033F0686.AD | | | Danfoss |
| DK-AR45-B00650 | Electrical - Safety Certificate | POCC | GOST |
| 19.10048.266 | Marine - Safety Certificate | | RMRS |
| 033F0691.AD | Manufacturers Declaration | RoHS | Danfoss |
| 033F0686.AG | Manufacturers Declaration | PED | Danfoss |
| 0C19205.2 | Pressure - Safety Certificate | CRN | TSSA |
| 0C18678.513467890 | Pressure - Safety Certificate | CRN YTN | TSSA |
| 11-1-0310-2012 | Explosive - Safety Certificate | | GPN |
| RU Д-ДК.Б/08.В.03707 | EAC Declaration | Machinery & Equipment | EAC |
| UA.089.D.00188-17 | UA Declaration | PED | LLC CDC EURO TYSK |
| UA.TR-089.0993-17 | Pressure - Safety Certificate | PED | LLC CDC EURO TYSK |
| UA1.069.0101254-15 | Pressure - Safety Certificate | PED | UkrCEPRO |

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