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# Z6MF - Valve for refrigerants - manually operated

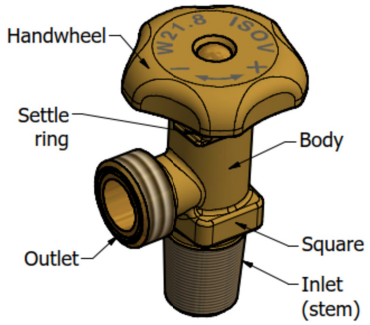
Don't use Z6MF gas valve in applications different, than described in this instruction.

## 1. Application

The Z6MF valve is an accessory of the refrigerant gas cylinder. Valve can be used to fill or emptying cylinder from selected refrigerant gases. Valve is manually operated and the directions of opening and closing are marked on the handwheel by arrows with „plus" (Open) and „minus" (Close) sign. Valve is manufactured and checked on compatibility with international standard and it's polish equivalent **PN-EN ISO 10297**. The valve structure is designed for use in a cylinder fitted with a shroud, protection cap or other valve cover against impacts, acc. regulations **ADR / RID 2021.**

## 2. Z6MF valve - technical specifications

| | |
|---|---|
| Valve working pressure | 36 [bar] |
| Valve test pressure | 48 [bar] |
| Valve burst test pressure | 72 [bar] |
| Work temp. scope | from -20˚C to +65˚C |
| Valve inlet | 17E acc. PN-EN ISO 11363-1 |
| Valve outlet | Type G.5 acc. PN-EN 15202<br>*formerly type B – W21.8 (without gasket in outlet)* |
| Materials used | 1) Metallic materials: CW612N, CW617N<br>2) Non-metallic materials: CR, PTFE, lithium grease ŁT-4 S-3 |
| Optional equipment | Outlet nut |
| Minimum lifetime | 2000 openings / closings<br>*minimum guaranteed valve durability resulting from the standard PN-EN ISO 10297 in conditions of proper operation.* |




The Z6MF valve is designed for selected refrigerants that are compatible with the materials used in the construction of the valve acc. PN-EN ISO 11114-1 and PN-EN ISO 11114-2. The current list of compatible refrigerants with the Z6MF valve is available at: www.fa-swarzedz.com.pl. In the absence of a specific refrigerant in list, always contact the valve manufacturer before using the valve.

## 3. Assembly

Before assembly in cylinder you have to check the valve is not damaged or dirty outside or inside and the condition of the threads. Do not install the valve that is damaged, dirty or with damaged threads. Each manufactured valve is checked for tightness and marked with the KJ mark after successfully passing the tightness check.

Before installing the valve in a gas cylinder, seal the thread of the valve inlet with a suitable sealant, compatible with the given refrigerant and ensuring tightness and proper engagement of the stem thread in the cylinder.

For the assembly, use only this suitable tools such as torque spanner or valving machine with torque regulation, which must be calibrated according to tools producer requirements. Grip of the tools is only allowed on valve body square 24mm.

## 4. Torque values

- Closing and opening the valve should be performed with a torque ≥ 4.8 [Nm]. Maximum use of a torque of 13.8 [Nm] to open and close the valve.
- The maximum guaranteed endurance of the valve opening and closing mechanism is 17.3 [Nm]. It's not recommended to use this moment in normal valve operation.
- Maximal guarantee torque to assembly valve in steel gas cylinder neck – 130 [Nm] (it's not recommended to apply this value in assembly).
  **NOTE** - *if the cylinder has a thread designed for a different (less than 130 [Nm]) valve tightening torque, the valve must be tightened using the torque indicated by the cylinder manufacturer.*
- Close and open the valve by seize the handwheel.
- It's not allowed to exceed torques described in this instruction.

## 5. Testing

Valve on each assembly must be checked for tightness test in the work pressure. To check presence of leaks it's not allowed to use the substances with ammonia. You should check all valve connections. Especially you should check the connections: cylinder-valve, body-settle ring, body-handwheel and valve outlet.

It is forbidden to repair the leakage spots of valve. If valve have leaks, any thread it's damaged or in valve is some dirt, which affected some leaks, the valve must be replaced for a new one.

## 6. Usage and maintenance

The condition of the valve depends on the environment, in which it worked. In each gas cylinder filling you should make sure that valve is not damaged. If the cylinder has been exposed to flames, the valve must be replaced.

Reconditioning or making valve incomplete is forbidden (inseparable construction) and is forbidden to grind down any identification marks or text from the valve.

Caps and spare parts can be obtained from suppliers of gas equipment.

## 7. Transport

Valve mounted in gas cylinder can be transported only on conditions of European directive ADR/RID.

Outlet of valve mounted in gas cylinder (independently of level of the gas inside the cylinder) must be protected by the outlet nut during the transport (it protects against gas leakage on unintentional opening of valve and protects against dirt).

**NOTE: *It's not allowed to use handwheel as grip to transport the gas cylinder.***

## 8. Identification

| | |
|---|---|
| | Manufacturer's logo – FAS |
| 1017 | ADR conformity mark and number of notified body |
| YY MM | Date code of manufacture, where: YY-year, MM-month |
| 17E | Identification of cylinder connection |
| KJ X | Quality Control Mark, where: X is employee number |
| ISO V | "ISO V" mark for compliance with PN-EN ISO 10297:2014/A1:2017 |
| W21.8 | Outlet connection thread. Thread W21.8 acc. PN-M-69224:1960 or equivalent: W21.8x1.814RH acc. DIN477-1 |

**NOTICE!**

- Only trained and valid personnel may work with refrigerants.
- Observe the health and safety rules when working with refrigerants.
- Always check that the refrigerant in question is compatible with the valve.
- Before starting work, it's recommended to verify the type of refrigerant with that declared in the installation.

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# Z6DF - Valve for refrigerants - manually operated

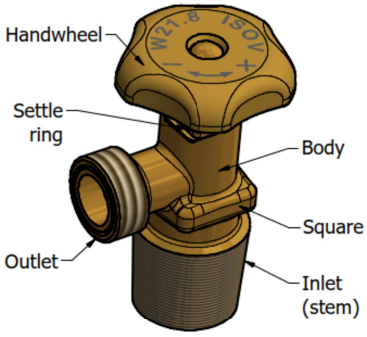
Don't use Z6DF gas valve in applications different, than described in this instruction.

## 1. Application

The Z6DF valve is an accessory of the refrigerant gas cylinder. Valve can be used to fill or emptying cylinder from selected refrigerant gases. Valve is manually operated and the directions of opening and closing are marked on the handwheel by arrows with „plus" (Open) and „minus" (Close) sign. Valve is manufactured and checked on compatibility with international standard and it's polish equivalent **PN-EN ISO 10297**. The valve structure is designed for use in a cylinder fitted with a shroud, protection cap or other valve cover against impacts, acc. regulations **ADR / RID 2021.**

## 2. Z6DF valve - technical specifications

| | |
|---|---|
| Valve working pressure | 36 [bar] |
| Valve test pressure | 48 [bar] |
| Valve burst test pressure | 72 [bar] |
| Work temp. scope | from -20˚C to +65˚C |
| Valve inlet | 25E acc. PN-EN ISO 11363-1 |
| Valve outlet | Type G.5 acc. PN-EN 15202<br>*formerly type B – W21.8 (without gasket in outlet)* |
| Materials used | 1) Metallic materials: CW612N, CW617N<br>2) Non-metallic materials: CR, PTFE, lithium grease ŁT-4 S-3 |
| Optional equipment | Outlet nut |
| Minimum lifetime | 2000 openings / closings<br>*minimum guaranteed valve durability resulting from the standard PN-EN ISO 10297 in conditions of proper operation.* |




The Z6DF valve is designed for selected refrigerants that are compatible with the materials used in the construction of the valve acc. PN-EN ISO 11114-1 and PN-EN ISO 11114-2. The current list of compatible refrigerants with the Z6DF valve is available at: www.fa-swarzedz.com.pl. In the absence of a specific refrigerant in list, always contact the valve manufacturer before using the valve.

## 3. Assembly

Before assembly in cylinder you have to check the valve is not damaged or dirty outside or inside and the condition of the threads. Do not install the valve that is damaged, dirty or with damaged threads. Each manufactured valve is checked for tightness and marked with the KJ mark after successfully passing the tightness check.

Before installing the valve in a gas cylinder, seal the thread of the valve inlet with a suitable sealant, compatible with the given refrigerant and ensuring tightness and proper engagement of the stem thread in the cylinder.

For the assembly, use only this suitable tools such as torque spanner or valving machine with torque regulation, which must be calibrated according to tools producer requirements. Grip of the tools is only allowed on valve body square 24mm.

## 4. Torque values

- Closing and opening the valve should be performed with a torque ≥ 4.8 [Nm]. Maximum use of a torque of 13.8 [Nm] to open and close the valve.
- The maximum guaranteed endurance of the valve opening and closing mechanism is 17.3 [Nm]. It's not recommended to use this moment in normal valve operation.
- Maximal guarantee torque to assembly valve in steel gas cylinder neck – 250 [Nm] (it's not recommended to apply this value in assembly).
  **NOTE** - *if the cylinder has a thread designed for a different (less than 250 [Nm]) valve tightening torque, the valve must be tightened using the torque indicated by the cylinder manufacturer.*
- Close and open the valve by seize the handwheel.
- It's not allowed to exceed torques described in this instruction.

## 5. Testing

Valve on each assembly must be checked for tightness test in the work pressure. To check presence of leaks it's not allowed to use the substances with ammonia. You should check all valve connections. Especially you should check the connections: cylinder-valve, body-settle ring, body-handwheel and valve outlet.

It is forbidden to repair the leakage spots of valve. If valve have leaks, any thread it's damaged or in valve is some dirt, which affected some leaks, the valve must be replaced for a new one.

## 6. Usage and maintenance

The condition of the valve depends on the environment, in which it worked. In each gas cylinder filling you should make sure that valve is not damaged. If the cylinder has been exposed to flames, the valve must be replaced.

Reconditioning or making valve incomplete is forbidden (inseparable construction) and is forbidden to grind down any identification marks or text from the valve.

Caps and spare parts can be obtained from suppliers of gas equipment.

## 7. Transport

Valve mounted in gas cylinder can be transported only on conditions of European directive ADR/RID.

Outlet of valve mounted in gas cylinder (independently of level of the gas inside the cylinder) must be protected by the outlet nut during the transport (it protects against gas leakage on unintentional opening of valve and protects against dirt).

**NOTE: *It's not allowed to use handwheel as grip to transport the gas cylinder.***

## 8. Identification

| | |
|---|---|
| | Manufacturer's logo – FAS |
| 1017 | ADR conformity mark and number of notified body |
| YY MM | Date code of manufacture, where: YY-year, MM-month |
| 25E | Identification of cylinder connection |
| KJ X | Quality Control Mark, where: X is employee number |
| ISO V | "ISO V" mark for compliance with PN-EN ISO 10297:2014/A1:2017 |
| W21.8 | Outlet connection thread. Thread W21.8 acc. PN-M-69224:1960 or equivalent: W21.8x1.814RH acc. DIN477-1 |

**NOTICE!**

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