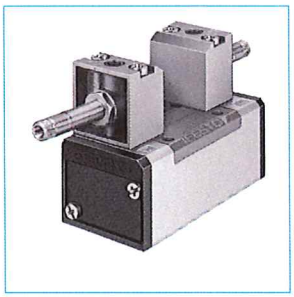
# Engineering Change Notification

MFH-/JMFH-...-D-1/-2/-3-C solenoid valves
Re-Design of pilot valves



**Engineering Change Notification**

**Project No**
262144

**Project Title**
MFH/JMFH pilot valve

**Date**
Oct. 2024



## Reason of change

In order to ensure a reliable and robust supply chain, the MFH/JMFH-...-D-.-C solenoid valve series must be adapted.

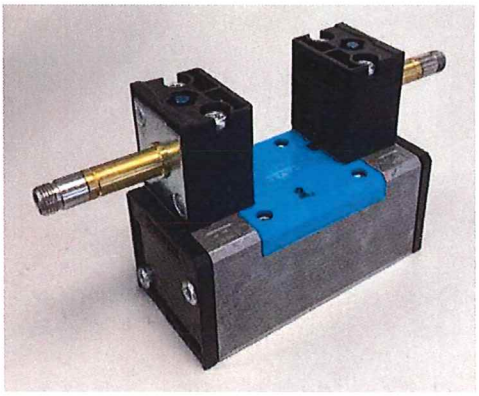
We therefore intend to change the design of the MFH pilot valves, consisting of the solenoid plate and armature tube, and transfer production to inhouse production.

## Technical changes

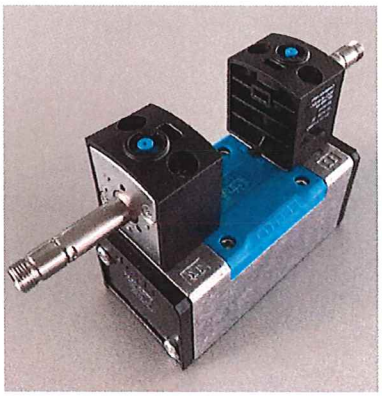
As part of this product change the following changes will be made:

- The change affects the appearance of the solenoid plate, while keeping nearly same dimensions.
- The position of the armature tube is changed by less than 1mm.
- Material changes from brass and stainless steel on armature to stainless steel only.
- Operational behaviour can be affected due to possibly slightly increased valve switching times, but within existing tolerances (see below for further details).
- As the design of the pilot valve is changed, we also need to adjust statistical reliability data, especially B10 life cycle values. After the change, for all affected products, the B10 value is 10 Mio. SP (switching cycles). This will be documented in reliability data sheets.

**Previous Version**
MFH pilot valve, with armature, material brass and stainless steel



**Future Version**
MFH pilot valve in new design, with armature, material stainless steel only



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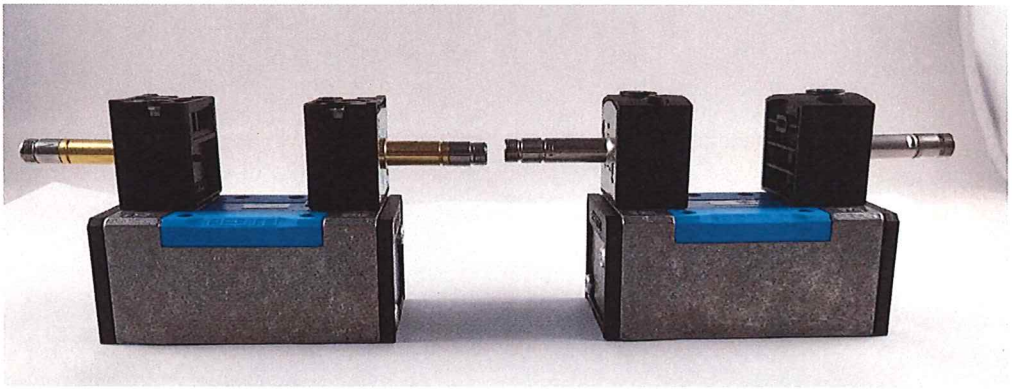
The position of the armature tube is changed with less than 1mm:



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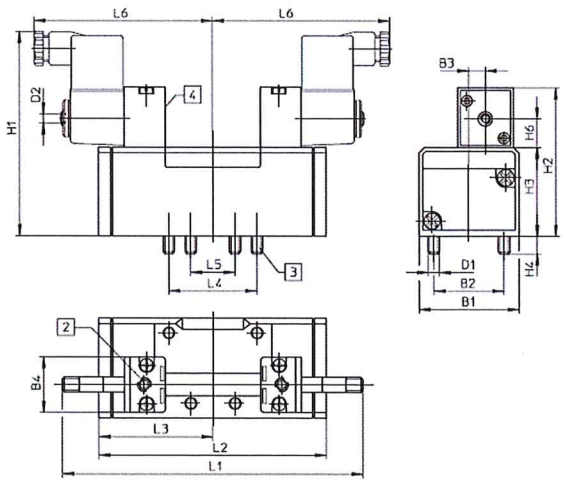
5/2-way double solenoid valves, 5/3-way valves




[2] Manual override
[3] Captive retaining screws
[4] Slot for inscription label

13,8 144,6 but on old 144,2

| Type | B1 | B2 | B3 | B4 | D1 | D2 | H1 | H2 | H3 | H4 | H5 | H6 | L1 | L2 | L3 | L4 | L5 | L6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JMFH-5/2-... | 42 | 28 | 6 | ~~30~~ | M5 | M5 | 100 | ~~70,3~~ | 38 | 9 | – | ~~13,5~~ | ~~142,6~~ | 87.6 | 43.8 | 36 | 18 | 89 |
| JMFDH-5/2-... | | | | 30,5 | | | | 71,3 | | | | | | 87.6 | 43.8 | | | |
| MFH-5/3... | | | | | | | | | | | | | | 108.4 | 54.2 | | | |

Switching time values mentioned in catalogue:

Please be aware, that all valve switching times are typical values for operating conditions with pressure 6bar, temperature 23°C, and at the beginning of life-time. All valve switching times have a tolerance range of +/- 20%, due to production tolerances, tribological system and mechanical wear over the life-time. That means during operation, a slighty adaption of the pneumatic system over the life-time may be necessary.

Further benefit with this modification:

After this change it is possible to combine the already used solenoid coil series MSFG/MSFW. Additionally it is possible to combine the new solenoid coil series VACF-A, with more options for electrical connectors.

## Known technical implications

- **Function**
  Valve switching times are being slightly increased. No change in catalogue, because all values are within allowed tolerances. Application specific adaptions may be necessary. To reduce negative effects, following counter measures in pneumatic system can be applied:
  - ➔ Adaption of cylinder speed, by flow control valves
  - ➔ Adaption of fittings and tubing length / diameter, to optimize flow-rate

- **Reliability data**
  Application specific calculations needs to be reviewed.
  - ➔ Adaption of B10 value

- **Interfacing**
  The position of the armature tube is changed with less than 1mm. Minor effects possible. Application specific and dependent on needed assembly space for the valves and control cables.

## Affected products

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| Part No | Type | |
|---|---|---|
| **151019** | SOLENOID VALVE | JMFDH-5/2-D-1-C |
| **151853** | SOLENOID VALVE | JMFDH-5/2-D-2-C |
| **151872** | SOLENOID VALVE | JMFDH-5/2-D-3-C |
| **150980** | SOLENOID VALVE | JMFH-5/2-D-1-C |
| **152563** | SOLENOID VALVE | JMFH-5/2-D-1-S-C |
| **151852** | SOLENOID VALVE | JMFH-5/2-D-2-C |
| **151023** | SOLENOID VALVE | JMFH-5/2-D-2-S-C |
| **151871** | SOLENOID VALVE | JMFH-5/2-D-3-C |
| **151033** | SOLENOID VALVE | JMFH-5/2-D-3-S-C |
| **150981** | SOLENOID VALVE | MFH-5/2-D-1-C |
| **151016** | SOLENOID VALVE | MFH-5/2-D-1-FR-C |
| **188510** | SOLENOID VALVE | MFH-5/2-D-1-FR-S-C |
| **152562** | SOLENOID VALVE | MFH-5/2-D-1-S-C |
| **151851** | SOLENOID VALVE | MFH-5/2-D-2-C |
| **151709** | SOLENOID VALVE | MFH-5/2-D-2-FR-C |
| **151022** | SOLENOID VALVE | MFH-5/2-D-2-S-C |
| **151870** | SOLENOID VALVE | MFH-5/2-D-3-C |
| **151711** | SOLENOID VALVE | MFH-5/2-D-3-FR-C |
| **151032** | SOLENOID VALVE | MFH-5/2-D-3-S-C |
| **150984** | SOLENOID VALVE | MFH-5/3B-D-1-C |
| **152566** | SOLENOID VALVE | MFH-5/3B-D-1-S-C |
| **151856** | SOLENOID VALVE | MFH-5/3B-D-2-C |
| **151026** | SOLENOID VALVE | MFH-5/3B-D-2-S-C |
| **151875** | SOLENOID VALVE | MFH-5/3B-D-3-C |
| **151036** | SOLENOID VALVE | MFH-5/3B-D-3-S-C |
| **150983** | SOLENOID VALVE | MFH-5/3E-D-1-C |
| **152565** | SOLENOID VALVE | MFH-5/3E-D-1-S-C |
| **151855** | SOLENOID VALVE | MFH-5/3E-D-2-C |
| **151025** | SOLENOID VALVE | MFH-5/3E-D-2-S-C |
| **151874** | SOLENOID VALVE | MFH-5/3E-D-3-C |
| **151035** | SOLENOID VALVE | MFH-5/3E-D-3-S-C |
| **150982** | SOLENOID VALVE | MFH-5/3G-D-1-C |
| **152564** | SOLENOID VALVE | MFH-5/3G-D-1-S-C |
| **151854** | SOLENOID VALVE | MFH-5/3G-D-2-C |
| **151024** | SOLENOID VALVE | MFH-5/3G-D-2-S-C |
| **151873** | SOLENOID VALVE | MFH-5/3G-D-3-C |
| **151034** | SOLENOID VALVE | MFH-5/3G-D-3-S-C |

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## Estimated transition date

According to our current project schedule, the change will be active finally

**from 4rd quarter 2024**

Please note, that the transition date can vary due to technical reasons and production needs.

## Release

Esslingen – Germany, October 2024

Head of Development
Indivual Valves
and Vacuum (ADAW)

Head of Quality
Management
Pneumatic Controls (BBSCH)

Head of Product Line
Indivual Valves
and Vacuum (BEND)