

2 way flow control valves series 2F1C provide pressure and viscosity compensated flow from port A to port B. The counter direction is blocked (standard) or can be open via an integral reverse flow check valve (optional).

**Function**

The compensator spool is located in front of the metering spool. The metering spool is closed in the neutral position to avoid undesired initial actuator motion. The oil flow to open the metering spool has to pass a needle valve (not shown in the sectional drawing). The needle valve can be adjusted from the front panel to set the response time of the 2F1C.

The metering spool is adjusted by the main control knob. The key lock has three positions:

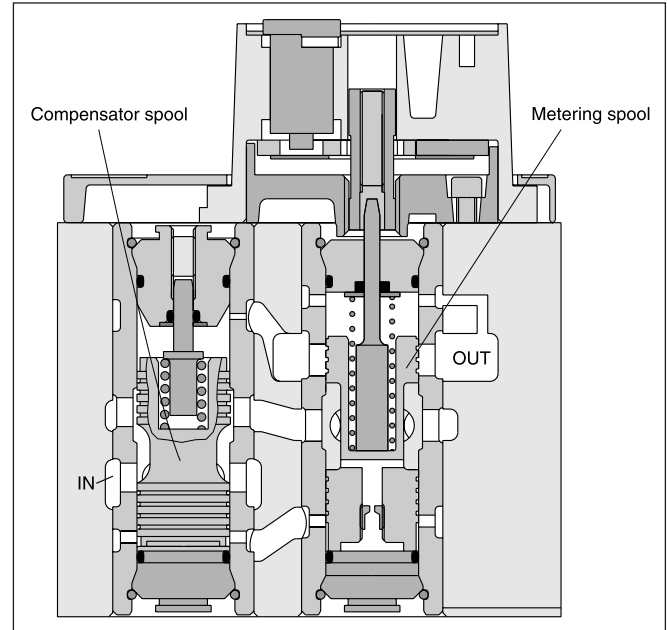
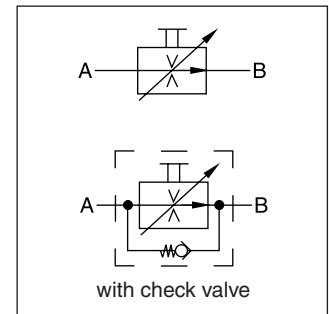
Lock: Adjustment is locked.

Adjust: Full adjustment is permitted.

Trim: Fine adjustment of +/- 5% is possible.

**Features**

- 2 way flow control valve
- Subplate mounting according to ISO 6263
- Excellent fine adjustment
- Adjustable response time
- Closed in neutral position
- Optional reverse flow check valve
- 2 sizes, NG10 (3/8"), NG16 (3/4")

**5****Ordering code**

2F1C

2 way flow control valve

Size

—

01

Adjustment knob with lock

—

B

Design series

—

5

Seal FPM

—

Reverse flow check

—

Options

| Code | Size        |
|------|-------------|
| 02   | NG10 (3/8") |
| 03   | NG16 (3/4") |

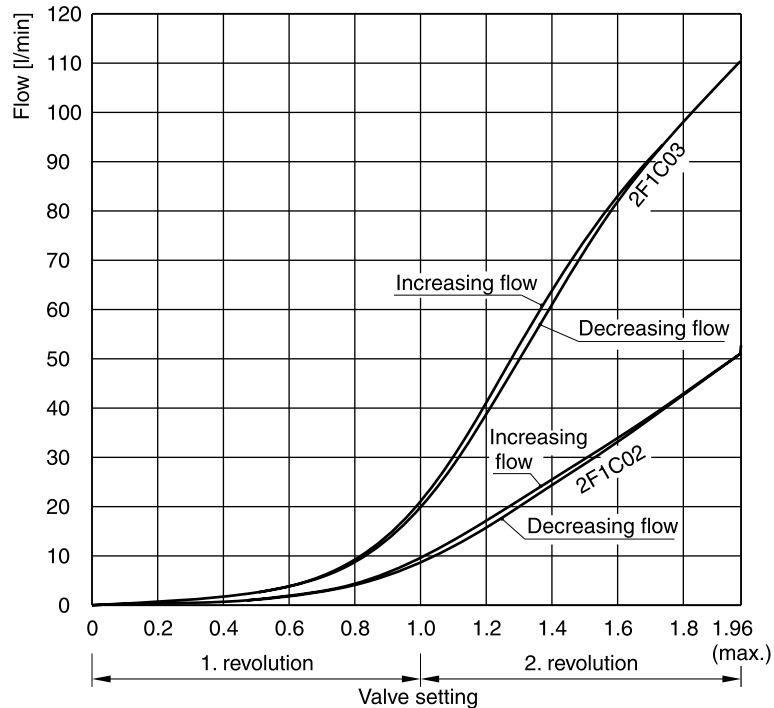
| Code | Check valve   |
|------|---------------|
| 0    | without check |
| C    | with check    |

Technical data

|                          |                 |       |                                                    |
|--------------------------|-----------------|-------|----------------------------------------------------|
| Design                   |                 |       | Orifice, infinitely variable, pressure-compensated |
| Actuator                 |                 |       | Manual flow rate adjustment                        |
| Mounting type            |                 |       | ISO 6263                                           |
| Mounting position        |                 |       | unrestricted                                       |
| Weight                   | [kg]            |       | 6.0 (2F1C02), 9.0 (2F1C03)                         |
| Fluid temperature        | [°C]            |       | Max. 70                                            |
| Ambient temperature      | [°C]            |       | -25...+50                                          |
| Viscosity range          | [cSt] / [mm²/s] |       | 2.8...400                                          |
| Filtering                | [µm]            |       | ISO 4406 (1999); 18/16/13                          |
| Min. pressure difference | [bar]           |       | see diagram                                        |
| Max. operating pressure  |                 |       |                                                    |
|                          |                 |       | <b>2F1C02</b>                                      |
|                          |                 |       | <b>2F1C03</b>                                      |
|                          | Port A          | [bar] | 14...280                                           |
|                          | Port B          | [bar] | 0...270                                            |
| Flow direction           |                 |       |                                                    |
| A → B                    |                 |       | Flow control function                              |
| B → A                    |                 |       | blocked or free flow through check valve           |

**Performance curves**

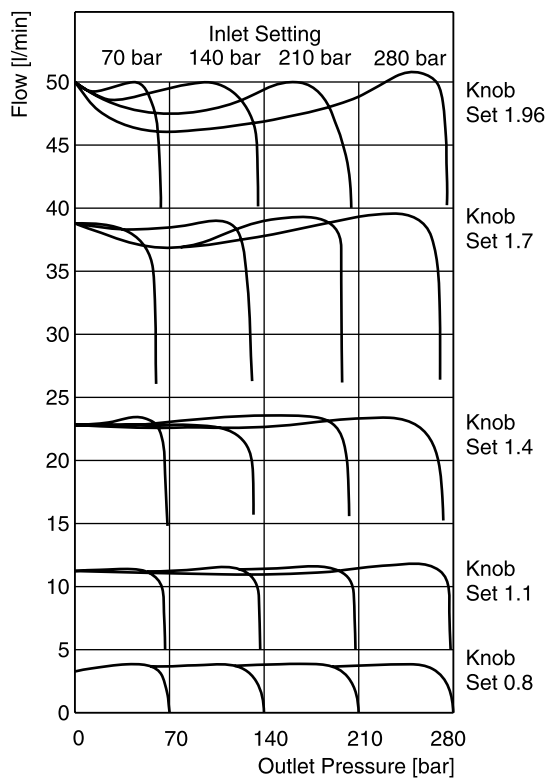
**Flow / knob adjustment characteristics at 210 bar**



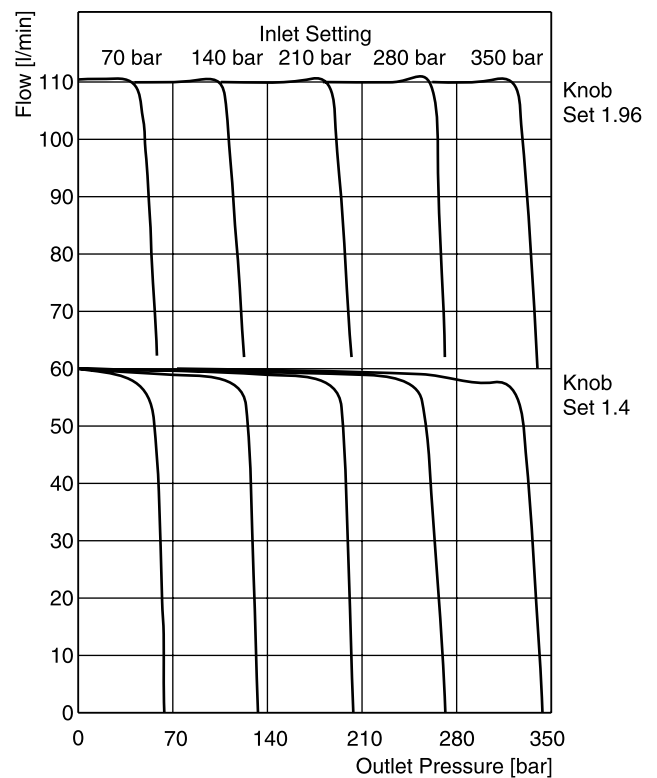
**Flow / pressure drop curves**

Constant inlet pressure – variable outlet pressure

**2F1C02**



**2F1C03**



Fluid viscosity 40 cSt at 50°C

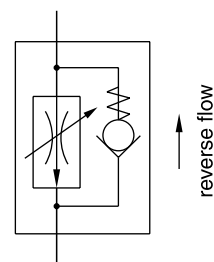
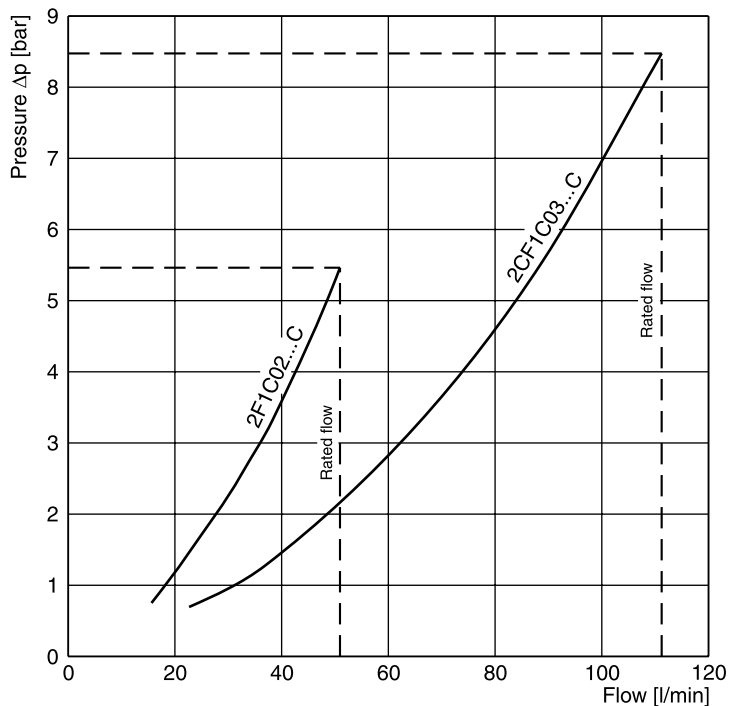
2F1C\_UK.INDD CM\_10.03.2008.1

**$\Delta p/Q$  performance curves**

for reverse flow direction

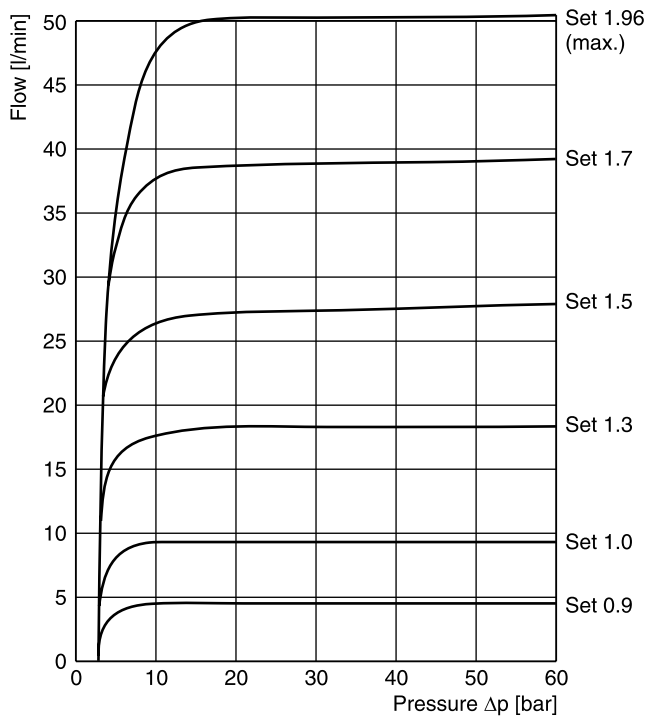
2F1C02 at 280 bar

2F1C03 at 350 bar

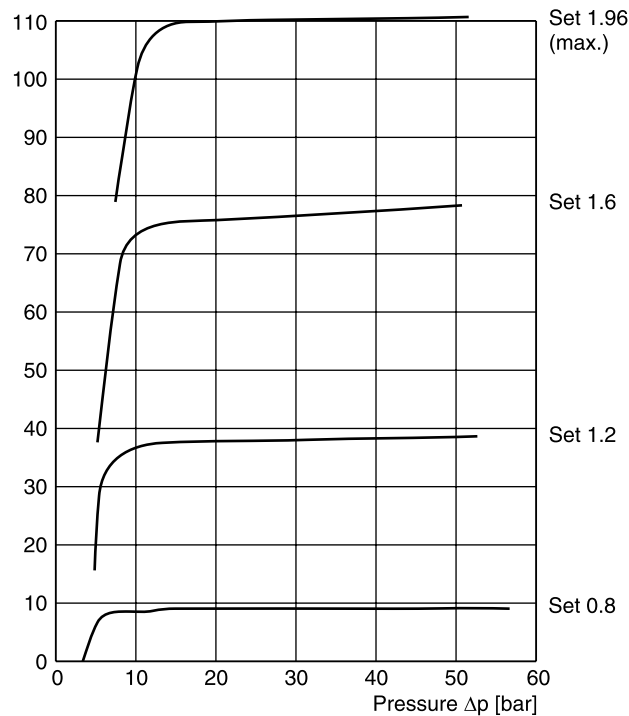


**Minimum pressure difference curves**

**2F1C02**



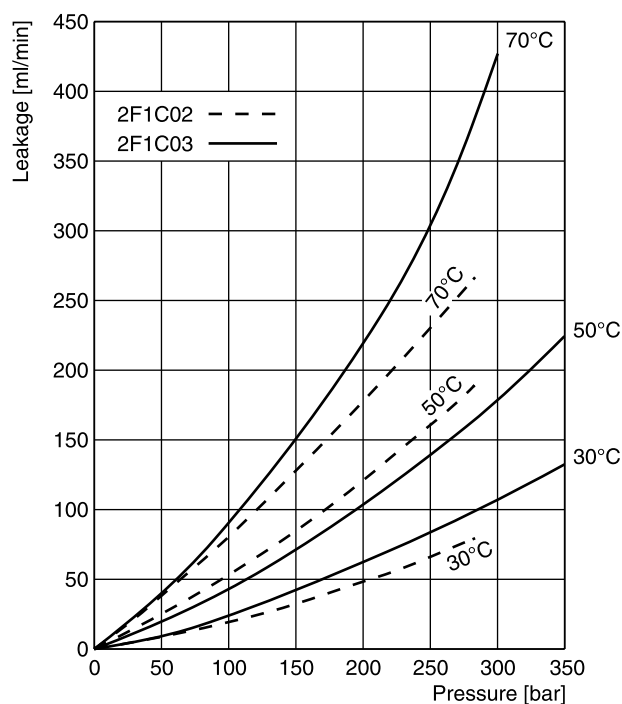
**2F1C03**



Fluid viscosity 40 cSt at 50°C

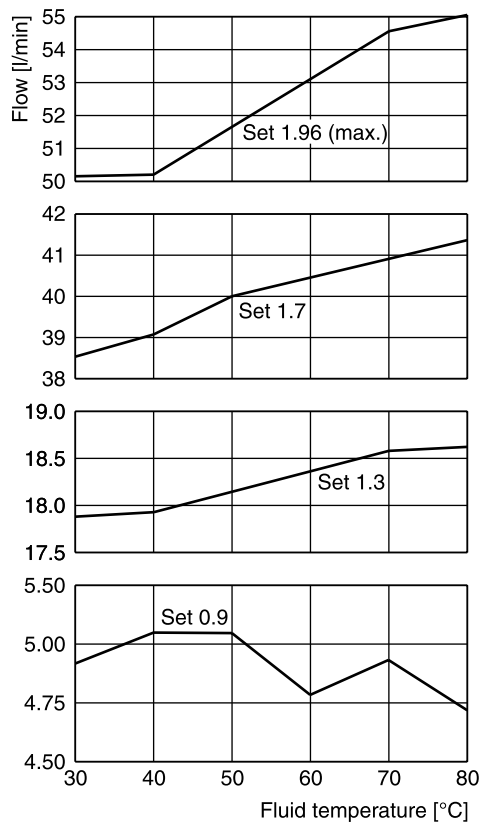
2F1C\_UK.INDD CM\_10.03.2008.1

**Leakage / pressure curves**

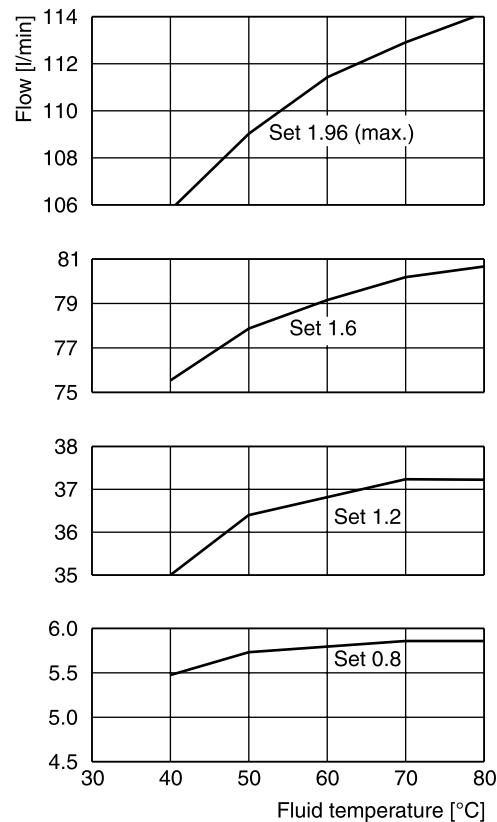


**Flow / temperature curves  
 at 210 bar**

**2F1C02**

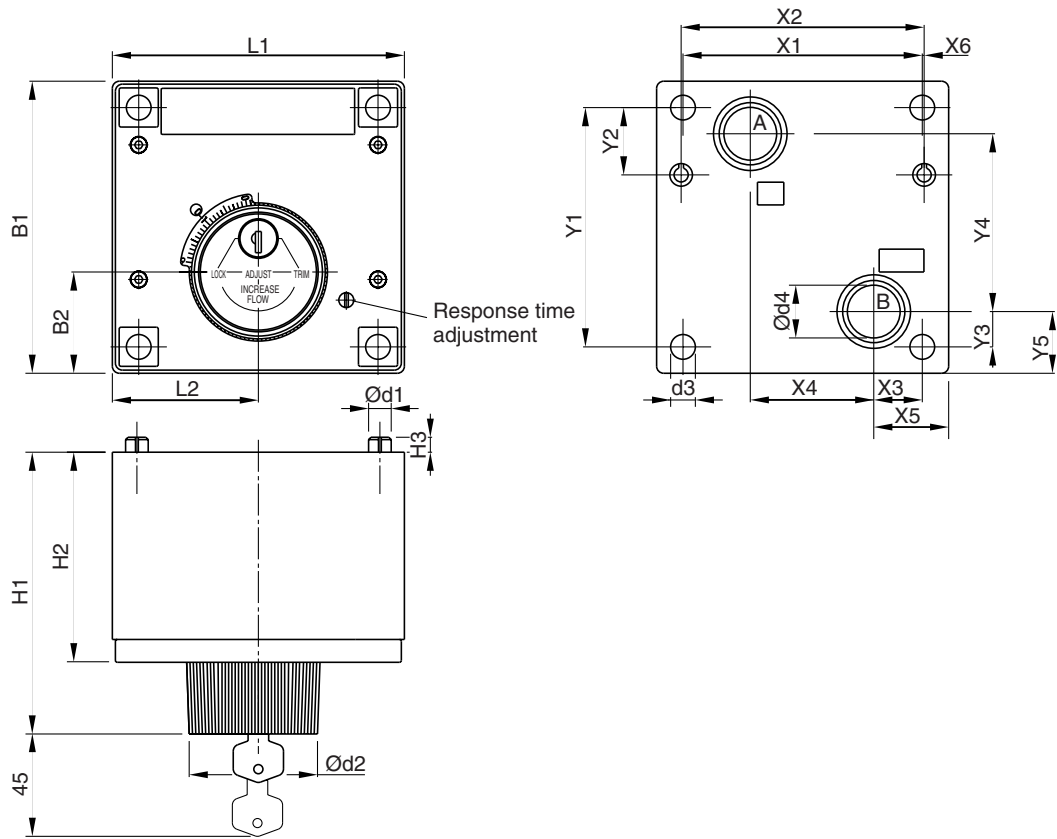


**2F1C03**



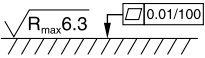
Fluid viscosity 40 cSt at 50°C

2F1C\_UK.INDD CM\_10.03.2008.1



| Size | ISO-code       | x1    | x2    | x3   | x4   | x5   | x6  | y1    | y2   | y3   | y4   | y5   |
|------|----------------|-------|-------|------|------|------|-----|-------|------|------|------|------|
| 02   | 6263-AM-07-2-A | 76.2  | 79.4  | 9.5  | 44.5 | 19   | –   | 82.5  | 23.8 | 30.2 | 41.3 | 39.7 |
| 03   | 6263-AK-06-2-A | 101.6 | 103.2 | 20.6 | 52.4 | 31.8 | 0.8 | 101.6 | 28.6 | 15.1 | 75.4 | 26.2 |

| Size | ISO-code       | B1    | B2   | H1    | H2   | H3  | L1    | L2   | d1  | d2   | d3   | d4   |
|------|----------------|-------|------|-------|------|-----|-------|------|-----|------|------|------|
| 02   | 6263-AM-07-2-A | 101.6 | 38.1 | 119.6 | 87.4 | 6.4 | 95.2  | 47.6 | 6.4 | 57.2 | 8.7  | 14.2 |
| 03   | 6263-AK-06-2-A | 123.8 | 42.9 | 121.4 | 89.2 | 6.4 | 123.8 | 61.9 | 9.5 | 57.2 | 10.5 | 22.4 |

| NG | ISO-code       | Bolt kit -  DIN912 12.9 |  |  Kit | Surface finish                                                                        |
|----|----------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 02 | 6263-AM-07-2-A | BK-700-70842-8 4xM8x100                                                                                    | 31.8 Nm ±15%                                                                        | on request                                                                                |  |
| 03 | 6263-AK-06-2-A | BK395 4xM10x100                                                                                            | 63 Nm ±15%                                                                          |                                                                                           |                                                                                       |