

## ELECTRIC OPERATED PROPORTIONAL PRESSURE REDUCING VALVE 8FGB4131021-\*\*/\*\*

### GENERAL DESCRIPTION

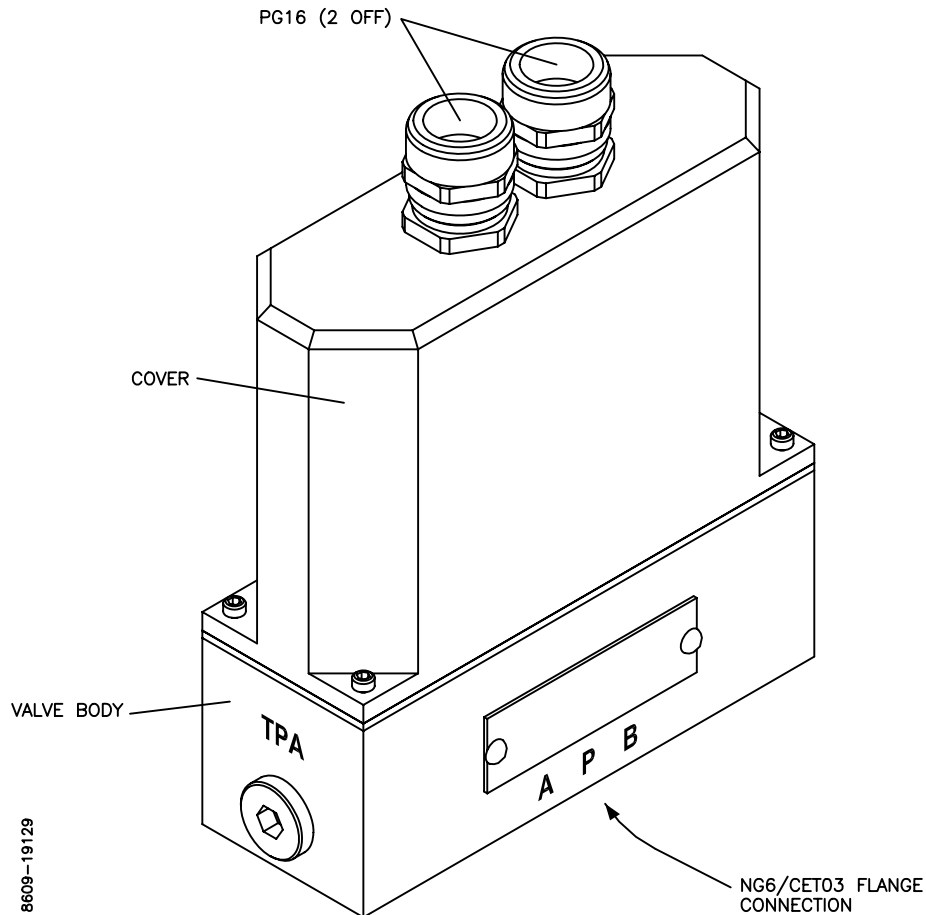


Figure 1 General Arrangement 8FGB4131021-\*\*/\*\*

The electric operated double 3/2 way proportional pressure reducing Valve (8 FGB) is a seawater resistant valve intended for proportional, electrically remote control of directional valves or similar applications. The valve has the following characteristics:

- Delivered for mounting to a sub plate according to ISO 03/Cetop 3
- Different pressure ranges are available.
- Electrical operation via Hydranor Joystick (HNJ) and Control Module (HNKV124V)
- Maximum 50 bar in port P.



## MODULAR CODE

| Options   | Remarks        | Design Code | Fill in    |
|---|----------------|-------------|------------|
| <i>Electric Pressure Reducing valve</i>                       |                |             | <b>8FG</b> |
| <i>Mounting</i>   |                |             |            |
| ISO 4401-03   |                | <b>B</b>    | <b>B</b>   |
| <i>Type</i>   |                |             |            |
| Individual pressure in both ports                             | No option      | <b>4</b>    | <b>4</b>   |
| <i>Pressure</i>   |                |             |            |
| 50 Bar  | No option      | <b>1</b>    | <b>1</b>   |
| <i>Operation</i>  |                |             |            |
| Electric proportional   | No option      | <b>3</b>    | <b>3</b>   |
| <i>Size</i>   |                |             |            |
| 06 mm   | No option      | <b>1</b>    | <b>1</b>   |
| <i>Spool type</i>   |                |             |            |
|   | No option      | <b>02</b>   | <b>02</b>  |
| <i>Spring Detent position</i>                                 |                |             |            |
| Spring centred  | No option      | <b>1</b>    | <b>1</b>   |
| <i>Modification</i>   |                |             |            |
|   | No alternative |             |            |
| <i>Pressure ranges (to be selected for both A and B port)</i> |                |             |            |
| 0 - 25 bar  |                | <b>11</b>   |            |
| 0 - 32 bar  |                | <b>12</b>   |            |
| <i>Electric Voltage</i>                                       |                |             |            |
| 24 Volt   | Standard       | <b>24V</b>  |            |
| 12 Volt   | On request     | <b>12V</b>  |            |

In example a 8FGB valve, spool type 02, with pressure range 0 - 25 bar in both port A and B, 24 Volt solenoid will have modular code: **8FGB4131021-11/11**



**VALVE DESCRIPTION**

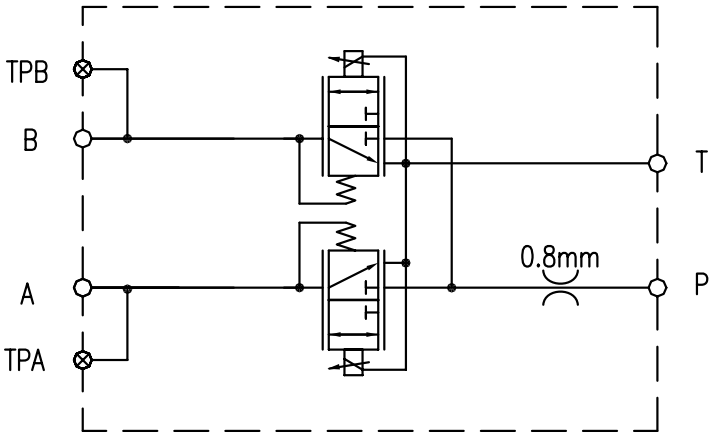


Figure 2 Circuit diagram 8FGB4131021-\*/\*\*

**NOTES:**

Avoid fluctuation in pressure port P, to achieve best result of the proportional control. Pressure in port T is directly additional to valve setting. An orifice diameter Ø 0.8 mm is mounted in port P.

**DIMENSIONS**

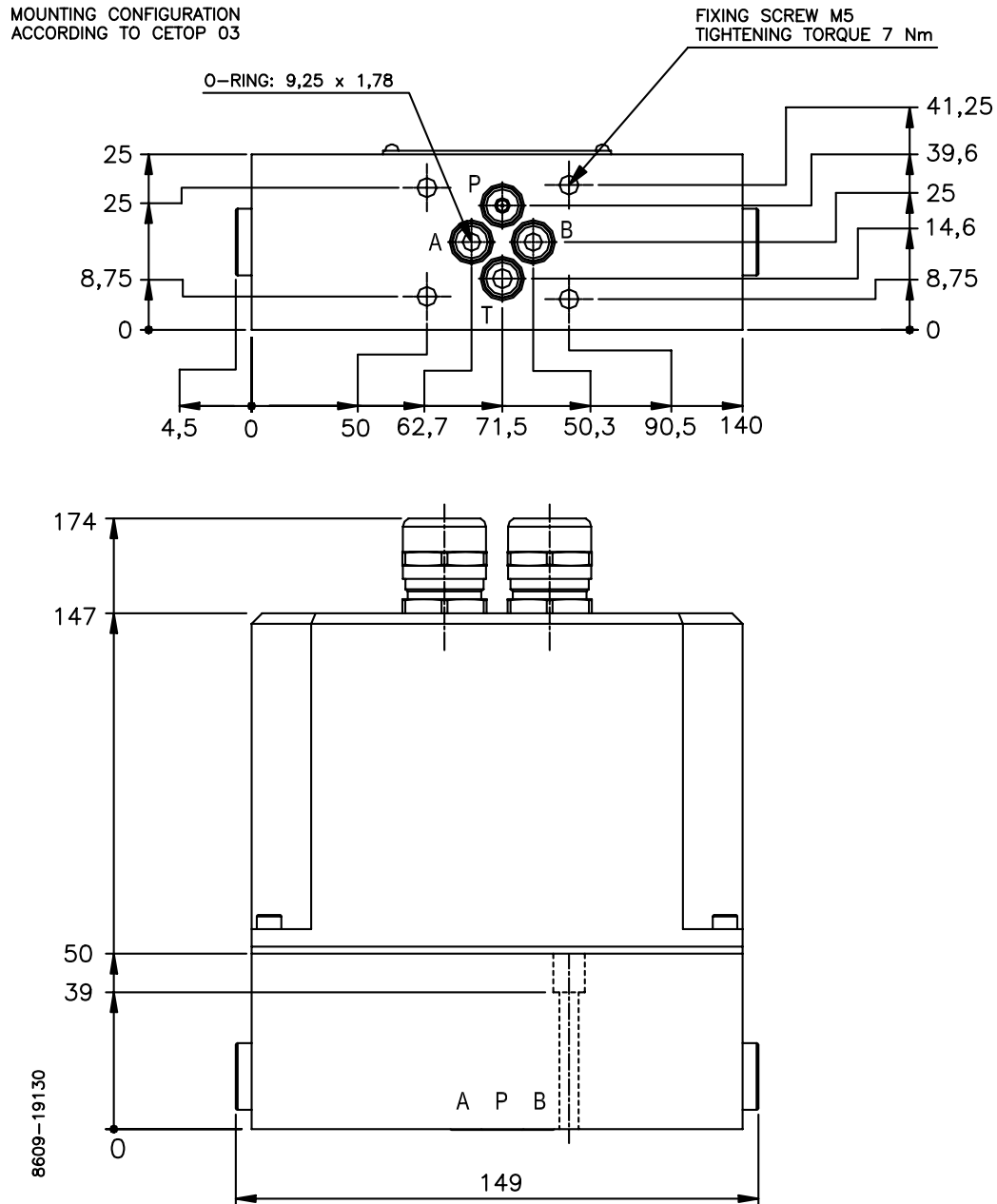


Figure 3 Dimensions 8FGB4131021-\*\*/\*\*



## TECHNICAL DATA

| Description   | Symbol    | Data   |          |
|---|-----------|--|----------|
| Max. pressure in port P                                   | $P_{max}$ | 50 bar   |          |
| Min nominal pressure in port P                            | $P_{nom}$ | Pilot pressure + 5 bar                                     |          |
| Max. pressure in port T                                   | $T_{max}$ | 10 bar (See note)  |          |
| Weight  |           | 5 kg   |          |
| Working Pressure  | P         | 0 – 25/32 bar  |          |
| Flow A/B→T at $\Delta p=25$ bar                           | Q         | 4 l/min  |          |
| Hydraulic fluid   |           | Mineral oils for hydraulic system                          |          |
| Viscosity range:  | $\nu$     | 10 to 350 mm <sup>2</sup> /s (cSt)                         |          |
| Viscosity index:  | VI        | > 120  |          |
| Filtration, recommended filter with $\beta_{20} \geq 100$ |           | Class 9 according to NAS 1638, 18/15 according to ISO 4406 |          |
| Fluid temperature range:                                  | T         | -20°C to + 70°C  |          |
| Ambient temperature range                                 | T         | -20°C to + 50°C  |          |
| Standard Body Material                                    |           | EN-GJS-400-15 (GGG 40)                                     |          |
| Standard O-rings  |           | Nitrile shore 70   |          |
| Voltage   | U         | 24 V DC  | 12 V DC  |
| Resistance $R_{20}$ in $\Omega$                           | R         | 21.2 ± 5%  | 5.3 ± 5% |
| Limit current   | I         | 750 mA   | 1500 mA  |
| PWM control frequency                                     |           | 100Hz  | 100Hz    |

### Interfaces:

| Description    | Type  | Data                     |
|----------------|---|--------------------------|
| El. connection | AMP Junior Power (included in delivery)           |                          |
| Cable nipple   | PG16  | Cable dim. Ø10 – 14 mm   |
| Screws         | 4 off M5 x 45-DIN 912<br>(To be order separately) | Tightening Torque 7.0 Nm |
| O-rings        | 4 off   | 9.25 x 1.78 mm           |



## **INSTALLATION**

The Pressure Reducing Valve 8FGB4131021-\*/\*\* is installed with 4 off screws to a SUB plate (ISO 4401). Please refer to 'Interfaces', for details about screws and o-rings.

## **OPERATION**

An electric signal applied to the valve will create a pressure on the ports, which is proportional to the current applied.

## **PRESSURE ADJUSTMENT**

No adjustments are possible

## **MAINTENANCE**

Check the valve for proper function. Visually check the valve and if required, paint unpainted (damaged) areas.

## **SPARE PART**

O-ring set is available.

## **STORAGE**

If storage longer than 6 months is expected, the valve must be kept in a dry room, free from dust and protected against sudden large temperature variations. For storage longer than 12 months, the valve must be filled with inhibition oil. Before use check all visible seals and flush with clean oil.

## **MARKING**

Inlets and outlets are marked; refer to figure in section 'General Description'.

## **REFERENCES**

This valve is designed to operate together with Control module for hydraulic proportional valve ref: chapter 8.2 and One Axis Joystick, ref: chapter 8.1.