

# HY-TS98-31 (Proportional Pressure Reducing/ Relief Valve)

## Introduction



**Description:**  
A screw-in, cartridge-style, pilot-operated, spool-type hydraulic pressure reducing/relieving valve, which can be infinitely adjusted across a prescribed range using a variable electric input. Pressure output is proportional to DC current input. This valve is intended for use as a pressure limiting device in demanding applications.

**Operation:**  
Without applied current, the HY-TS98-31 allows dual-flow from ③ to ④ while blocking ②. When the coil is energized, ③ is connected to ②, and pressure at ③ is controlled proportional to the amount of current applied to the coil. If pressure at ③ Exceeds the setting induced by the coil, pressure is relieved to ④. Back pressure on port ④ becomes additive to the pressure setting at a 1:1 ratio.  
Note: Consult factory for special OEM variations of this product.

## Technical specification (for application beyond these parameters, please contact with us)

|                          |  |
|--------------------------|--|
| Model                    | HY-TS98-31   |
| Installation position    | When possible, the valve should be mounted below the reservoir oil level. This will maintain oil in the armature preventing trapped air instability. If this is not feasible, mount the valve horizontally for best results. |
| Storage temperature (°C) | -20°C to +55°C   |
| Ambient temperature (°C) | -20°C to +50°C   |

## Hydraulic specification

|                               |   |
|-------------------------------|---|
| Max. inlet pressure at port 2 | 207 Bar (3000 psi)  |
| Rated flow                    | When coil de-energized, ③ to ④ to reduced pressure is 45 psi: 11.4 lpm (3 gpm)  |
| Flow path                     | Free flow: dual-flow from ③ to ④ coil de-energized;<br>Reducing: ② to ③ coil energized<br>Relieving: ③ to ④ coil energized, ① is not plumbed externally |
| Threshold voltage             | 12 VDC coils: 0.150 A<br>24 VDC coils: 0.075 A  |
| Max. pilot flow               | 0.4 Lpm (0.12 gpm)  |
| Hysteresis                    | 3% PWM  |
| Hydraulic fluid               | Mineral oil, phosphate-ester  |
| Fluids                        | 7.4~420 cSt (50~2000 sus)   |
| Temperature                   | -30°C~+175°C (-20~350°F) , With FPM seals   |
| Cavity                        | HY98-3, see page H.1.10   |

## Electrical specification

|   |   |
|---|---|
| Max. control current  | 12 VDC coils: 0.7 A<br>24 VDC coils: 0.35 A |
| Reducing/relieving pressure range (from zero to max. control current) | 0-138 Bar (0-2000 psi)                      |

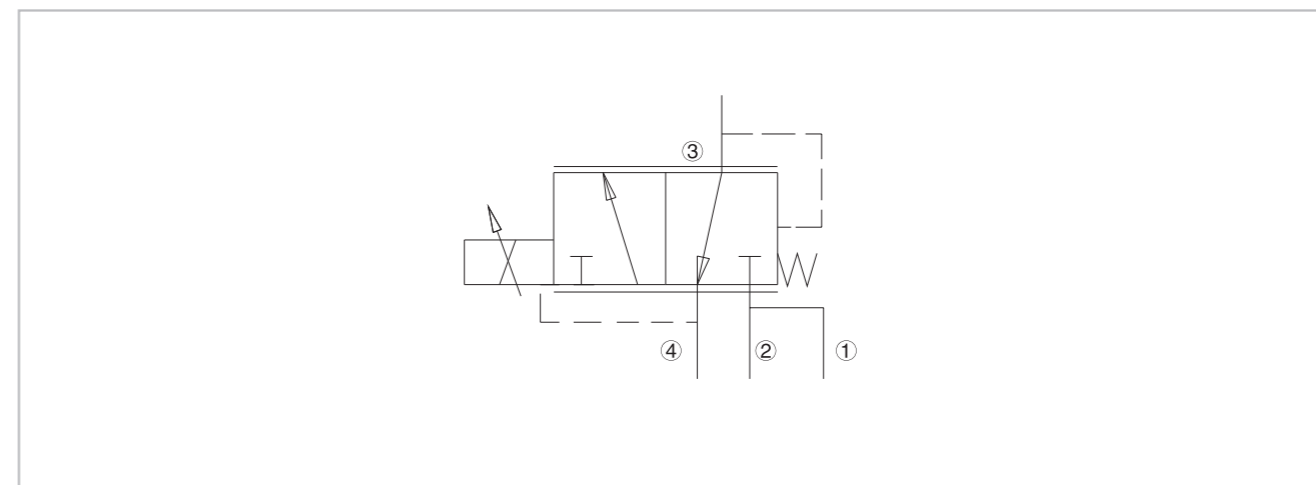
# HY-TS98-31 (Proportional Pressure Reducing/ Relief Valve)

## Model instruction

HY-TS98-31 - \* - \* - \* \*

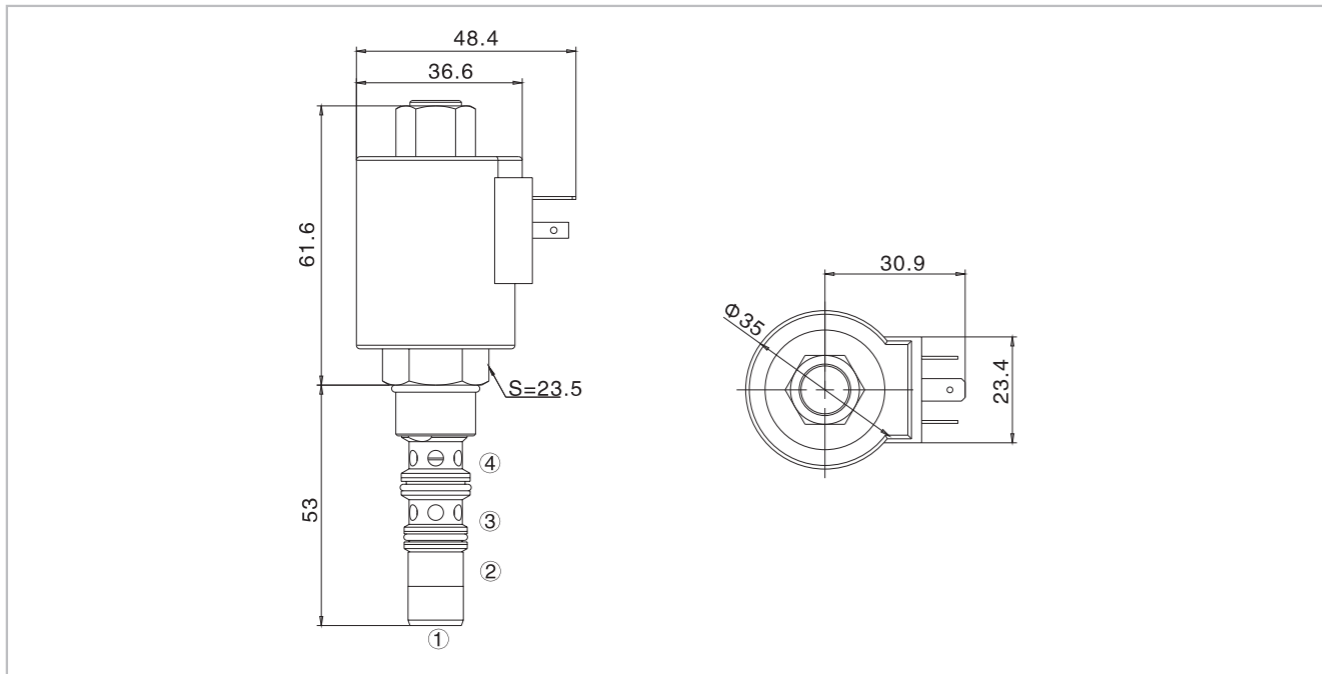
|   |  |  |
|---|--|--|
| Proportional pressure Reducing/ relief valve      |  | Std. coil termination (VDC)<br>DG DIN 43650<br>ER Deutsch DT04-2P      |
| Porting<br>0 Cartridge only<br>6T SAE6<br>8T SAE8 |  |  |
| Seals<br>N NBR Seals<br>V FPM Seals               |  | Voltage<br>0 Less coil<br>12 12 VDC(max.0.70A)<br>24 24 VDC(max.0.35A) |

## Code symbol



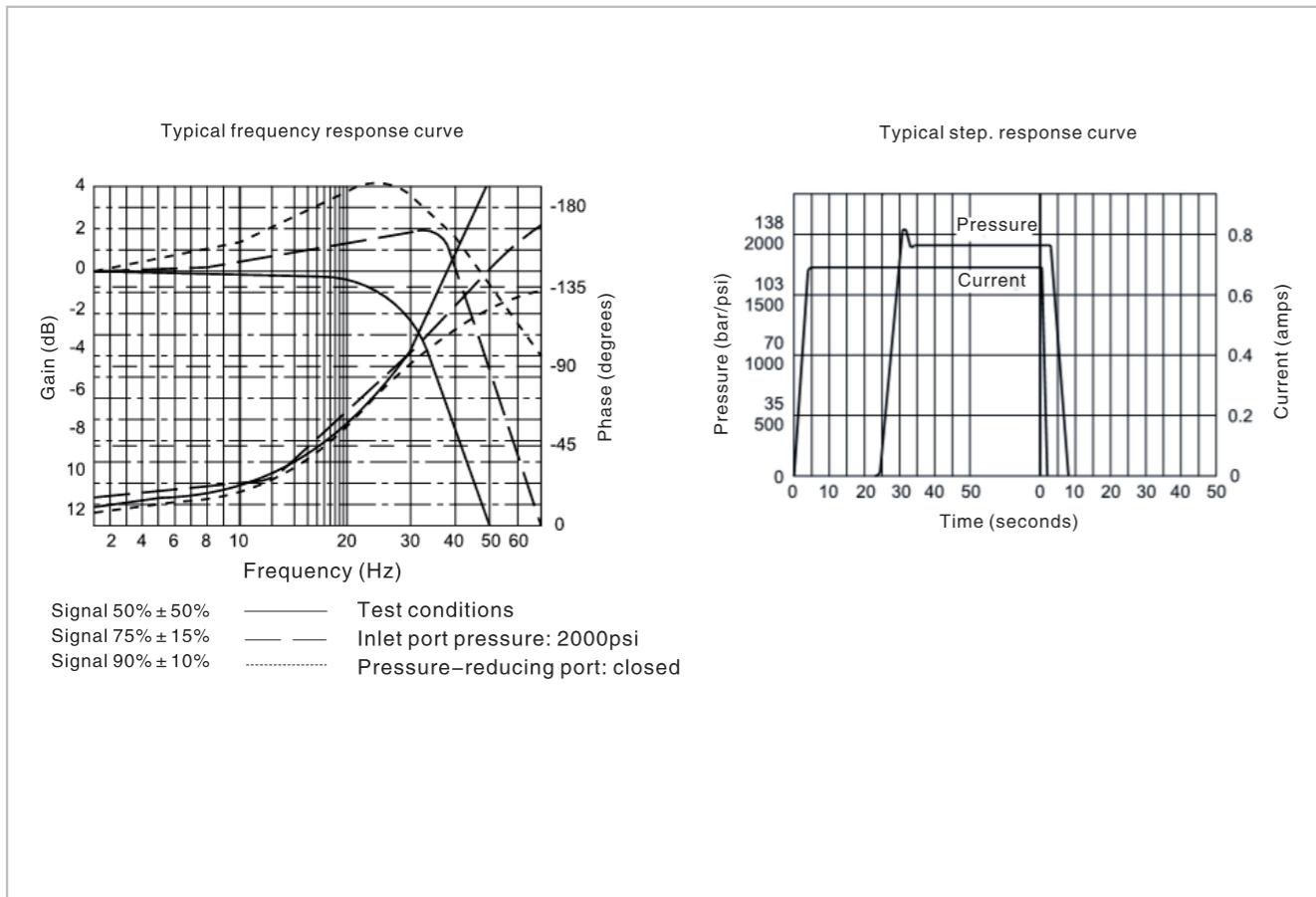
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## External dimensions



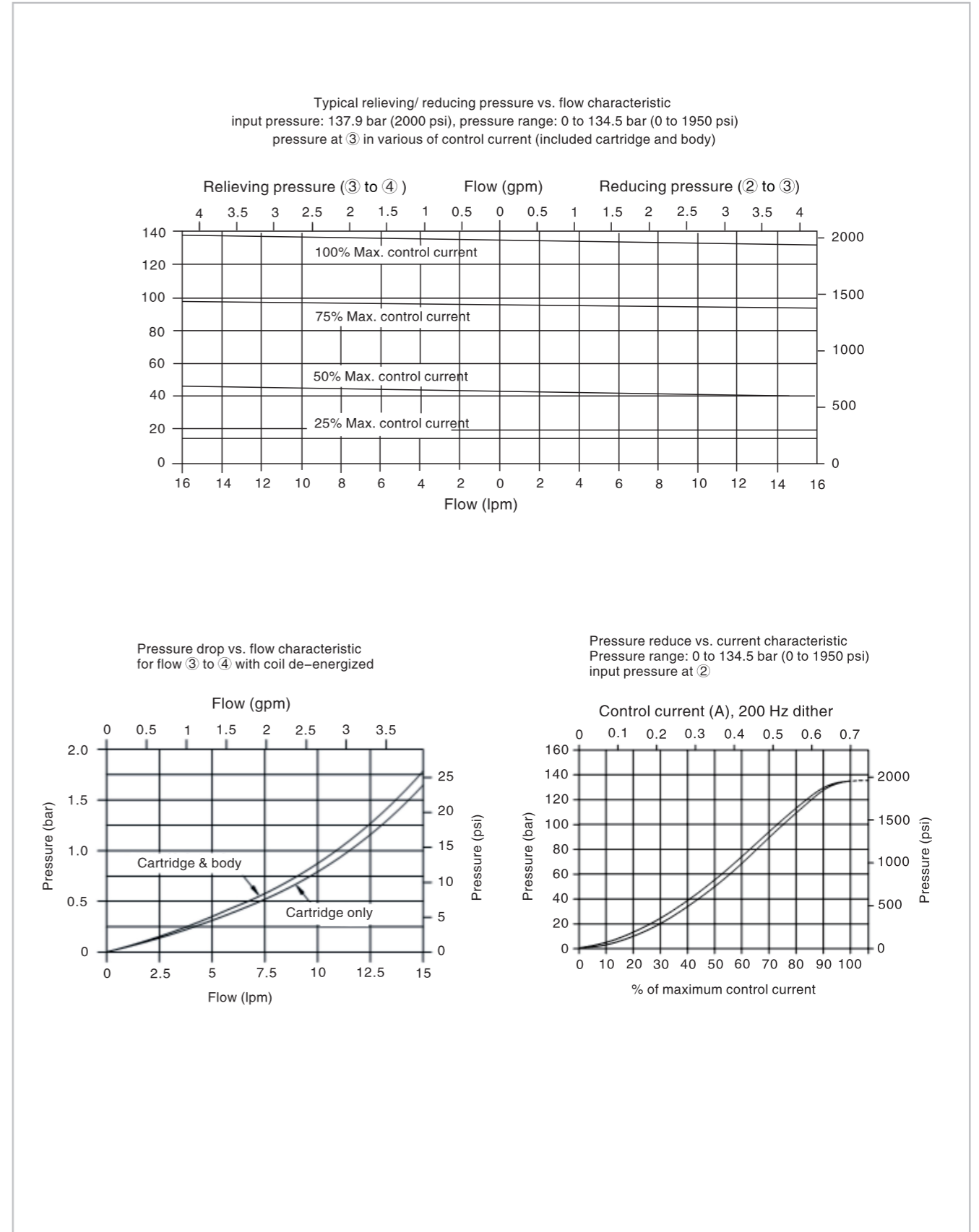
A.10.3

## Specification performance



# HY-TS98-31 (Proportional Pressure Reducing/ Relief Valve)

## Specification performance



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