



**NPP**  
Nuclear Power  
Plants



# Pilot Control Block

Pilot Control Block products for pilot control function of MSIVs and SRVs. These blocks consist of valves and solenoids assembled in modular way based on client's requirements.

## Specification

Solenoid Type 6A39	
<b>Operating system</b>	Solenoid
<b>Rated voltage</b>	105 to 140 V DC; normal 125 V DC
<b>Tolerance</b>	+10% / -10%
<b>Rated power</b>	22 W
<b>Protection degree</b>	IP 68 up to 4 bar (58 psig)
<b>Weight</b>	0.820 kg (1.8 lbs)
<b>Ambient temperature</b>	Up to 60 °C (141 °F)
<b>Frequency</b>	50 to 60 Hz (+/- 3 Hz)

## Harsh environment

<b>Temperature</b>	179 °C (355 °F)
<b>Radiation</b>	6.34×10 <sup>5</sup> Gy

## NPP references

<b>Nine Mile Point</b>	USA
<b>Grand Gulf</b>	USA
<b>Perry</b>	USA
<b>Clinton</b>	USA
<b>Mühleberg</b>	Switzerland
<b>Leibstadt</b>	Switzerland
<b>Gösgen</b>	Switzerland

## Specifications

Valve types 1166 + 1133	
<b>Operating system</b>	Pneumatic pilot operated with system media fluid with: 2 solenoids (valve type 1166) 3 solenoids (valve type 1133)
<b>Function</b>	3-way pilot valve for MSIV / SRV
<b>Fluid</b>	Filtered air (50 micron filter)
<b>Nominal diameter</b>	32 mm (1.3 in)
<b>Design pressure</b>	20 bar (300 psig)
<b>Operating pressure</b>	6.2 to 14 bar (90 to 200 psig)
<b>Leakage</b>	2.0 Ncm <sup>3</sup> /min (0.12 inch <sup>3</sup> /min)
<b>Material</b>	Body: Aluminum enameled / Elastomers: EPDM
<b>Ambient temp. range</b>	Up to 104 °C (219 °F)

## Qualifications

<b>Qualification and design bases</b>	IEEE 323 - 1974 IEEE 344 - 1975 IEEE 382 - 1980 NUREG 0588, Category 1 US NRC Regulatory Guide 1.89, 1974 US NRC Regulatory Guide 1.100, 1976
<b>Qualified lifetime</b>	40 years
<b>Radiation</b>	2.8×10 <sup>6</sup> Gy (40 years)

## Harsh environment

<b>Temperature</b>	Up to 171 °C (340 °F)
<b>Radiation</b>	2.86×10 <sup>5</sup> Gy; 2.44×10 <sup>6</sup> Gy beta