










Solenoid valves for NPP's

- Wide product range DN8–DN50 ●
- Suitable for different applications ●
- Type-test approved and certified (LOCA tested) ●
- 45 years of experience worldwide ●









**XORELLA
FRANK**

Product range of solenoid valves

	Type SV 22, 2/2-way	Type SV 32, 3/2-way	Type SV 22L, 2/2-way LOCA Qualified
	 <p>Type MKO normally open (NO)</p>  <p>Type MKS normally closed (NC)</p> 	 <p>Type MK03 normally A-R</p>  <p>Type MKS3 normally A-P</p> 	 <p>Type MKO normally open (NO)</p>  <p>Type MKS normally closed (NC)</p> 
Dimensions	DN8...DN25	DN8...DN15	DN8...DN25
Function	2/2 way NC or NO, direct operated	3/2 way A-R or A-P, direct operated	2/2 way NC or NO, direct operated
Open/close time	0,8...2 s	0,8...2 s	0,8...2 s
Material of valve body and inner parts in contact with medium	1.4550, 1.4571, 1.4539 (all types of stainless steel possible)	1.4550, 1.4571, 1.4539 (all types of stainless steel possible)	1.4550, 1.4571, 1.4539 (all types of stainless steel possible)
Material of gaskets	FKM, EPDM, CSM (others on request)	FKM, EPDM, CSM (others on request)	FKM, EPDM, CSM (others on request)
Pressure range	-1...19bar	-1...12bar	-1...19bar
Medium temperature range	5 °C...200 °C	5 °C...200 °C	5 °C...200 °C
Ambient temperature range	5 °C...50 °C	5 °C...50 °C	5 °C...50 °C
Flow rate range Kvs	2,2 (DN15)...7,1(DN25) m ³ /h	2,2 (DN15) m ³ /h	2,2 (DN15)...7,1(DN25) m ³ /h
Leakage rate (helium)	up to 10 ⁻⁶ mbar • l/s (qualified)	DIN EN 12266-1/2 leak rate A (in both directions)	up to 10 ⁻⁶ mbar • l/s (qualified)
Connection types	Welding ends, screw connection	Welding ends, screw connection	Welding ends, screw connection
Solenoid types	110 V DC...230 V DC +10%/-20%, 90 W, 50 W Option: AC power supply with add. rectifier module	110 V DC...230 V DC +10%/-20%, 90 W, 50 W Option: AC power supply with add. rectifier module	207 V DC...230 V DC +10%/-20%, 90 W Option: AC power supply with add. rectifier module
ED (electrical duration)	100%	100%	100%
Limit switch (optional)	2 x mechanical limit switch	2 x mechanical limit switch	2 x mechanical limit switch
Degree of protection	IP65 (IP67 on site possible) acc. DIN EN 60529	IP65 (IP67 on site possible) acc. DIN EN 60529	IP65 (IP67 on site possible) acc. DIN EN 60529
Qualified up to	Quality class Q3, K2 Seismic class SC1	Quality class Q3, K2 Seismic class SC1	Quality class Q3, K2 Seismic class SC1 LOCA, 300 kGy
Expected lifetime (with regular maintenance)	Valvebody: 60 years Solenoid: 10 years	Valvebody: 60 years Solenoid: 10 years	Valvebody: 60 years Solenoid: 10 years

Advantages and references

Type SV MV14 Diaphragm-valve	Type SV MV84 Diaphragm-valve
 <p>Type MKO normally open (NO)</p>  <p>Type MKS normally closed (NC)</p> 	 <p>Type MKO normally open (NO)</p>  <p>Type MKS normally closed (NC)</p> 
DN15...DN50	DN15...DN50
2/2 way NC or NO, direct operated	2/2 way NC or NO, direct operated
0,8...2 s	0,8...2 s
PP, PVDF, PVC	stainless steel
EPDM, CSM, PTFE	EPDM, CSM, PTFE
-1...10bar	-1...10bar
-20 °C...120 °C	-5 °C...175 °C
5 °C...50 °C	5 °C...50 °C
2,0 (DN15)...21,0 (DN50) m ³ /h	2,0 (DN15)...21,0 (DN50) m ³ /h
DIN EN 12266-1/2 leak rate A (in both directions)	DIN EN 12266-1/2 leak rate A (in both directions)
Flange, welding ends, screw connection	Flange
110 V DC...230 V DC +10%/-20%, 90 W, 50 W	110 V DC...230 V DC +10%/-20%, 90 W, 50 W
Option: AC power supply with add. rectifier module	Option: AC power supply with add. rectifier module
100%	100%
2 x mechanical limit switch	2 x mechanical limit switch
IP65 (IP67 on site possible) acc. DIN EN 60529	IP65 (IP67 on site possible) acc. DIN EN 60529
not classified	not classified
Valvebody: 10 years Solenoid: 10 years	Valvebody: 60 years Solenoid: 10 years

Advantages:

- Redesigned for the new EPR™
- Quick-acting time
- Very low leakage rate based on bellow technology (Type SV22 and SV22L)
- Type-test approved and certified by TÜV-Süd Germany
- Easy to maintain
- Long maintenance interval
- Easy to remove actuator
- Electrical connections (eg. Harting, Souriau, Deutsch)
- Description according: PS 7021/FIN0005 / KSD 7021/50 / RE-L 1601
- Optional modules: Power supply with AC/DC rectifier / with limit switches
- Long lifetime
- 45 years of experience – worldwide
- Made in Switzerland

References:

- **Finland:** Olkiluoto 3
- **China:** Taishan 1+2, Fuqing 1+2, Fangjiaoshan 1+2
- **Argentina:** Atucha 1+2
- **Brazil:** Angra 2+3
- **Germany:** Biblis A (KWB A), Biblis B (KWB B), Unterweser (KKU), Grafenrheinfeld (KKG), Grohnde (KWG), Philippsburg 2 (KKP 2), Brokdorf (KBR), Emsland (KKE), Isar (KKI 2), Neckarwestheim (GKN 2)
- **Switzerland:** Gösgen (KKG), Beznau (KKB)

Solenoid valve applications for new EPR's

Decontamination equipment for apparatus, tanks and vessels
Seal water supply system
Chemical and volume control system, volume control tank
Coolant purification system, mixed-bed demineralizers
Coolant degasification system, vacuum unit
Radioactive concentrates processing, resin proportioning tank
Liquid waste processing system
Liquid waste storage system, chemical tank
Hot laundry facilities

Xorella-Frank certifications for NPP's



ISO 9001:2008



KTA 1401



TÜV.A.350-07 Type-test approval



AD 2000-Leaflet HPO



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