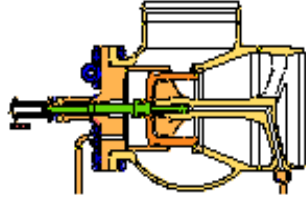
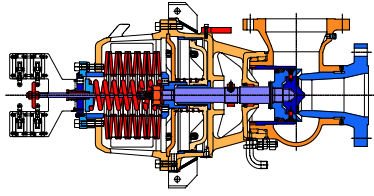


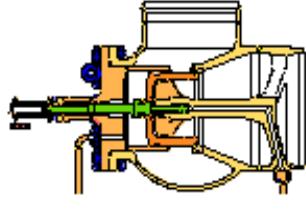
## Referencelist for Safety Valves for Nuclear Power Plants



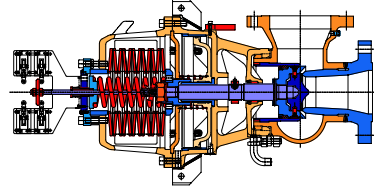
Customer	Country	Power Plant	Location	Type of Power Plant	Plant Capacity (MW)	Application	Circuit	Valve type	Amount of Units	Valves per unit	Actuator principl	Delivery date	Design data			Pipe	
													P <sub>E</sub> (bar)	T <sub>E</sub> (°C)	Q <sub>D</sub> (kg/s)	DN <sub>E</sub>	DN <sub>A</sub>
KWU	Germany	Biblis A	Germany	PWR	1200	MSSV	Sec.	SIZ	1	4	S, A	1983	80	300	69.6	200	250
KWU	Germany	Biblis A	Germany	PWR	1200	MSSV	Sec.	SH	1	4	P, EM	1986	88	305	467	400	500
KWU	Germany	Biblis A	Germany	PWR	1200	LP	Sec.	SH	1	2	P, EM	1984	12	200	139	700	800
KWU	Germany	Biblis B	Germany	PWR	1300	MSSV	Sec.	SIZ	1	4	S, A	1986	80	300	74.7	200	250
KWU	Germany	Biblis B	Germany	PWR	1300	MSSV	Sec.	SH	1	4	P, EM	1984	88	305	500	400	500
KWU	Germany	Biblis B	Germany	PWR	1300	LP	Sec.	SH	1	2	P	1986	12	200	139	700	800
KWU	Germany	Biblis B	Germany	PWR	1300	SV	Aux.	Si	1	Div.	S	1983	Div.	Div.	Div.	Div.	Div.
KWU	Germany	Brunsbüttel	Germany	BWR	900	PSV	Pri.	SH	1	2	EM	1985	12	200	139	700	800
KWU	Germany	Phillipsburg	Germany	BWR	900	PSV	Pri.	SH	1	2	EM	1985	12	200	139	700	800
KWU	Germany	Neckarwestheim	Germany	PWR	900	PSV	Pri.	SH	1	4	EM	1986	12	200	139	700	800
KWU	Germany	Unterweser	Germany	PWR	1300	LP	Sec.	SH	1	2	EM	1986	12	200	139	700	800
KWU	Germany	Isar 1	Germany	BWR	900	PSV	Pri.	SH	1	2	EM	1985	12	200	139	700	800
KWU	Germany	Krümml	Germany	BWR	1200	PSV	Pri.	SH	1	4	EM	1985	12	200	139	700	800
KWU	Germany	Grohnde	Germany	PWR	1300	LP	Sec.	SH	1	4	EM	1985	12	200	139	700	800
KWU	Germany	Brokdorf	Germany	PWR	1300	LP	Sec.	SH	1	4	EM	1986	12	200	139	700	800



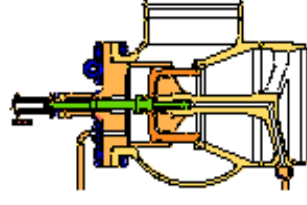
## Referencelist for Safety Valves for Nuclear Power Plants



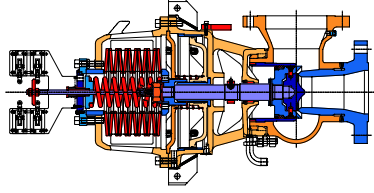
Customer	Country	Power Plant	Location	Type of Power Plant	Plant Capacity (MW)	Application	Circuit	Valve type	Amount of Units	Valves per unit	Actuator princip	Delivery date	Design data			Pipe	
													P <sub>E</sub> (bar)	T <sub>E</sub> (°C)	Q <sub>D</sub> (kg/s)	DN <sub>E</sub>	DN <sub>A</sub>
KWU	Germany	Phillipsburg II	Germany	PWR	1300	LP	Sec.	SH	1	4	EM	1986	12	200	139	700	800
KWU	Germany	Isar 2	Germany	PWR	1300	LP	Sec.	SH	1	4	EM	1986	12	200	139	700	800
KWU	Germany	Krömmel	Germany	BWR	1300	MSSV	Pri.	SH	1	11	P	1983	88	300	166	250	350
KWU	Germany	Grundremmingen B+C	Germany	BWR	1300	SRV	Sec.	SH	2	11	EM	1984	88	300	166	250	350
KWU	Germany	Schmehausen	Germany	THTR	300	MSSV	Sec.	SIZ	1	6	A	1977	215	545	43	80	150
KWU	Germany	Schmehausen	Germany	THTR	300	MSSV	Sec.	SIZ	1	6	A	1977	68	550	54	200	300
KWU	Germany	Grafenheinfeld	Germany	PWR	1300	PSV	Pri.	SH	4	4	P,EM	1978	90	305	515	400	500
KWU	Germany	Tapp 3	India	PWR	1300	LP	Sec.	SH	1	4	EM	2002	16	200	139	700	800
KWU	Germany	Tapp 4	India	PWR	1300	LP	Sec.	SH	1	4	EM	2002	16	200	139	700	800
KWU	Germany	Leibstadt	Switzerland	BWR	900	SV	Aux.	Si	1	Div.	S	Div.	Div.	Div.	Div.	Div.	Div.
KWU	Germany	Beznau I - II	Switzerland	PWR	600	MSSV	Sec.	SIZ	2	4	S	1968	70	295	167	250	350
KWU	Germany	Göksen-Däniken	Switzerland	PWR	900	LP	Sec.	SH	1	3	P,A	1982	85	300	556	400	500
KWU	Germany	Atucha II	Argentina	PWR	300	PSV	Pri.	SH	1	2	EM	1986	131,5	320	60	150	250
Framatome	France	Phenix	France	FBR	250	MSSV	Sec.	SIZ	1	6	S	1973	180	545	34,8	80	150
Framatome	France	Super-Phenix	France	FBR	1200	MSSV	Sec.	SIZ	1	12	S	1980	215	500	199	150	250
Framatome	France	diff. Power Plants	France	PWR	900	MSSV	Sec.	SIZ	28	21	S	1976	80	300	93	200	250



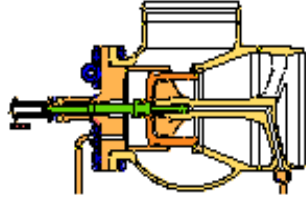
## Referencelist for Safety Valves for Nuclear Power Plants



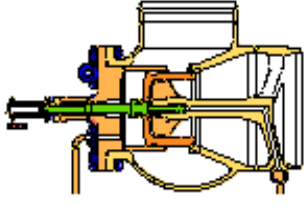
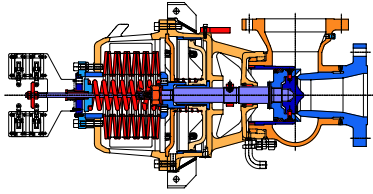
Customer	Country	Power Plant	Location	Type of Power Plant	Plant Capacity (MW)	Application	Circuit	Valve type	Amount of Units	Valves per unit	Actuator princip	Delivery date	Design data			Pipe	
													P <sub>E</sub> (bar)	T <sub>E</sub> (°C)	Q <sub>D</sub> (kg/s)	DN <sub>E</sub>	DN <sub>A</sub>
Framatome	France	Fessenheim	France	PWR	900	MSSV	Sec.	SiZ	2	21	S	1974	80	300	93	200	250
Framatome	France	Bugey	France	PWR	900	MSSV	Sec.	SiZ	4	21	S	1975	80	300	94	200	250
Framatome	France	Paluel	France	PWR	1300	MSSV	Sec.	SiZ	4	28	S	1982	92	310	116	200	250
Framatome	France	Koeberg I + II	South-Africa	PWR	900	MSSV	Sec.	SiZ	2	21	S, A	1980	78	300	93	200	250
Framatome / Korea Electr.	France	Ulchin I + II	South-Korea	PWR	900	MSSV	Sec.	SiZ	2	21	S, A	1985	76	295	93	200	250
AECL	Canada	Cordoba	Argentina	PHWR	600	MSSV	Sec.	SiZ	1	16	A	1977	50	275	76,8	200	250
AECL	Canada	Gentilly II	Canada	PHWR	600	MSSV	Sec.	SiZ	1	16	A	1978	50	275	76,8	200	300
AECL	Canada	New Brunswick	Canada	PHWR	600	MSSV	Sec.	SiZ	1	16	A	1977	50	275	76,8	200	300
AECL	Canada	Pickering	Canada	PHWR	600	DCRV	Pri.	Si,43	4	1	S	2000	86	265	26,4	50	80
AECL	Canada	Pickering B	Canada	PHWR	600	DCRV	Pri.	Si,43	4	1	S	2000	86	265	52,8	100	150
AECL	Canada	Darlington	Canada	PHWR	600	MSSV	Sec.	SiZ	4	12	A	1988	6	280	91,7	500	600
AECL	Canada	Point Lepreau	Canada	PHWR	600	DCRV	Pri.	Si,43	1	2	A	1996	100	320	26,6	50	80
AECL	Canada	Wolsong I	South-Korea	PHWR	600	MSSV	Sec.	SiZ	1	16	A	1979	50	275	75,2	200	300
AECL	Canada	Wolsong I - IV	South-Korea	PHWR	600	DCRV	Pri.	Si,43	4	2	S	1996	100	320	26,6	50	80
		Borselle	Netherlands	PWR	450	SV	Sec.	Si	1	20	S	1985	93	280	41,7	100	150
		Loviisa I + II	Finland	PWR	440	MSSV	Sec.	SiZ	2	16	A	1985	58	280	88,9	200	300



## Referencelist for Safety Valves for Nuclear Power Plants



Customer	Country	Power Plant	Location	Type of Power Plant	Plant Capacity (MW)	Application	Circuit	Valve type	Amount of Units	Valves per unit	Actuator princip	Delivery date	Design data			Pipe	
													P <sub>E</sub> (bar)	T <sub>E</sub> (°C)	Q <sub>D</sub> (kg/s)	DN <sub>E</sub>	DN <sub>A</sub>
TVO	Finland	Olkiluoto I + II (TVÖ)	Finland	BWR	1000	PSV	Pri.	SH	2	2	P	1996	85	300	41,7	150	300
	GUS (Russia)	Novovoronezh	Russia	PWR	1000	PSV	Pri.	SH	1	3	P	1980	190	340	38,9	100	200
		Novovoronezh	Russia	PWR	440	MSSV	Sec.	SIZ	1	12	A	1999	55	275	69,4	200	300
		Kalinin	Russia	PWR	1000	PSV	Pri.	SH	2	3	P	1982	190	340	38,9	100	200
		Rowno 1,2	Russia	PWR	440	PSV	Pri.	SH	2	3	P	1982	154	340	31,9	100	200
		Jushno Ukrainskja	Ukraine	PWR	1000	PSV	Pri.	SH	2	3	P	1982	190	340	38,9	100	200
		Saporoshje 1-5	Ukraine	PWR	1000	PSV	Pri.	SH	5	6	EM	1984	60	50	1,7	32	32
		Balakovaa	Russia	PWR	1000	PSV	Pri.	SH	4	6	EM	1984	60	50	1,7	32	32
PAKS	Hungary	PAKS	Hungary	PWR	440	MSSV	Sec.	SIZ	4	12	S, A	1990	60	300	83,3	200	300
		Slovakia	Mochovce/Bohumice	PWR	440	SV	Aux.	Si	2	Div.	S	1990	Div.	Div.	Div.	Div.	Div.
	GUS, Russia	Kola	Russia	PWR	440	PSV	Pri.	SH	4	2	P	1981	154	340	31,9	100	200
AECL		Cernavoda	Romania	PHWR	600	DCRV	Pri.	Si 43	1	2	A	2002	100	320	26,6	50	80
AECL	Canada	Quinshan	China	PHWR	600	MSSV	Sec.	SIZ	2	16	S	2002	52	275	99	200	300
AECL	Canada	Quinshan	China	PHWR	600	DCRV	Pri.	Si 43	2	2	A	2001	100	320	26,6	50	80
AECL		Mezamoar	Armenia	PWR	440	MSSV	Sec.	SIZ	1	12	A	2000	56	275	73,5	200	300
AECL	Canada	Condoba	Argentina	DCRV		DCRV	Pri.	Si 43	1	2	A	1997	100	320	26,6	50	80



## Referencelist for Safety Valves for Nuclear Power Plants

Customer	Country	Power Plant	Location	Type of Power Plant	Plant Capty. (MW)	Application	Circuit	Valve type	Amount of Units	Valves per unit	Actuator princip	Delivery date	Design data			Pipe	
													P <sub>E</sub> (bar)	T <sub>E</sub> (°C)	Q <sub>D</sub> (kg/s)	DN <sub>E</sub>	DN <sub>A</sub>

Ontanion Hydro	Canada	Bruce A	Canada			DCRV	Pri.	Si 43	3	2	S	1999	85	310	34,8	50	80
Ontanion Hydro	Canada	Bruce B	Canada			DCRV	Pri.	Si 43	4	2	S	1999	95	320	37,8	50	80

**Legend:**

- PWR: Pressurized Water Reactor
- BWR: Boiling Water Reactor
- PHWR: Pressurized Heavy Water Reactor
- FBR: Fast Breeder Reactor
- THTR: High Temperature Reactor

- Pri.: Primary Circuit
- Sec.: Secondary Circuit
- Aux: Auxiliary Circuit

- MSSV: Main Steam Safety Valve
- LP: LP-Turbine Bypass Valve
- DCRV: Degasser Condenser Relief valve
- PSV: Pressurizer Safety valve
- SV: Safety valve

- S: Spring loaded Safety Valve
- A: Air assisted Safety Valve
- P: Pilot operated Safety Valve
- EM: electromagnetic assistance by SIH 3115