

Temperature responsive expansion valves(liquid injection)

WTV series

Introduction



WTV series temperature responsive expansion valves(liquid injection) are usually installed suction side of compressor in refrigeration system to protect the refrigeration system from too high discharge gas or oil temperature.

Operating principle

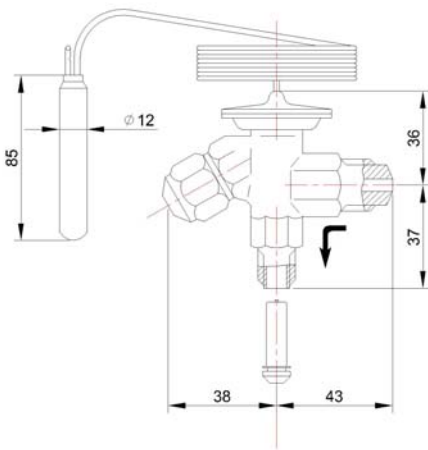
When the discharge gas or oil temperature in refrigeration system is too high, the valve will open. Liquid refrigerant will be fed into the suction side and compression cavity after temperature drop through the valve, and then cool the motor coil and the mixture of refrigerant and oil, which makes the liquid refrigerant entering the evaporator in lower temperature.

Technical data

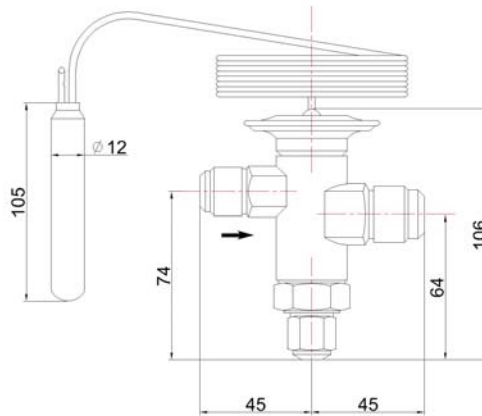
Max. working pressure: 3MPa
 Max. testing pressure: 3.5MPa

Dimension (Unit: mm)

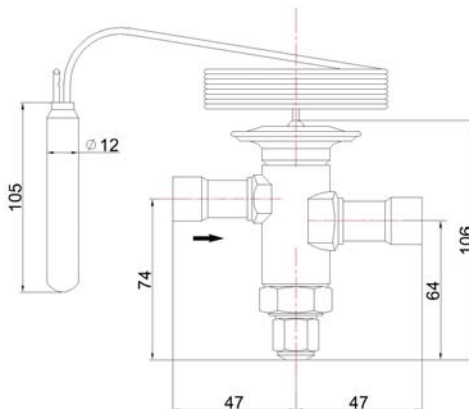
WTVC



WTVB



WTVB



Temperature responsive expansion valves(liquid injection)

WTV series

Type & data

Model	Intermediate pressure(Pi) (MPa)	Opening temperature (t _b) range (°C)	Connection Inlet×Outlet (in.)	Capillary length (m)
WTVC	0.1	55→85	3/8×1/2 SAE	1
	0.2	65→90		
	0.3	75→95		
	0.4	85→100		
	0.5	90→110		
	0.6	95→114		
	0.7	101→116		
	0.8	106→119		
	0.9	111→123		

Model	Intermediate pressure(Pi) (MPa)	Opening temperature (t _b) range (°C)	Connection Inlet×Outlet (in.)	Capillary length (m)
WTVA WTVB	0.1	50→75	1/2×5/8 SAE or ODF	1.5
	0.2	75→85		
	0.3	80→90		
	0.4	85→95		
	0.5	90→101		
	0.6	94→105		
	0.7	100→110		
	0.8	106→115		
	0.9	111→119		

Notes: t_b= bulb temperature(Discharge gas temperature of compressor), Pi= Suction pressure.

Temperature of liquid entering valve correction factor

Refrigerant	Refrigerant liquid temperature °C																
	60	55	50	45	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20
R22	0.75	0.8	0.85	0.9	0.95	1	1.05	1.1	1.14	1.19	1.24	1.29	1.33	1.38	1.42	1.47	1.51
R134a	0.71	0.77	0.83	0.89	0.94	1	1.06	1.11	1.17	1.23	1.28	1.34	1.39	1.45	1.5	1.56	1.61
R407C	0.67	0.74	0.8	0.87	0.94	1	1.06	1.12	1.19	1.24	1.3	1.36	1.42	1.48	1.54	1.59	1.65
R404A/R507	0.5	0.61	0.71	0.81	0.91	1	1.09	1.18	1.26	1.34	1.43	1.51	1.59	1.66	1.74	1.82	1.89

Valve capacities based on vapor free liquid refrigerant at +35°C.

To determine the capacities for other temperatures of vapor free liquid refrigerant entering the valve, multiply the capacities listed in the table of extend capacities.

Temperature responsive expansion valves(liquid injection)

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R134a Extend capacity KW (Extend KW capacities based on vapor free liquid refrigerant at +35°C)

Model		Pressure drop across valve (MPa)									Pressure drop across valve (MPa)								
		0.4	0.6	0.7	0.8	1	1.1	1.2	1.4	1.6	0.4	0.6	0.7	0.8	1	1.1	1.2	1.4	1.6
Evaporating temperature +15°C											Evaporating temperature +10°C								
WTV(-)	0	0.68	0.84	0.91	0.97	1.08	1.13	1.19	1.28	1.37	0.67	0.82	0.89	0.95	1.06	1.11	1.16	1.26	1.35
	1	1.58	1.94	2.1	2.24	2.51	2.63	2.76	2.98	3.19	1.55	1.9	2.06	2.2	2.46	2.58	2.7	2.92	3.13
	2	2.64	3.23	3.5	3.73	4.17	4.38	4.59	4.96	5.3	2.59	3.17	3.43	3.66	4.09	4.29	4.49	4.86	5.2
	3	4.22	5.33	5.59	5.98	6.68	7.01	7.34	7.94	8.49	4.14	5.08	5.48	5.86	6.55	6.87	7.2	7.78	8.32
	4	7.08	8.67	9.37	10	11.2	11.8	12.3	13.3	14.2	6.94	8.5	9.18	9.82	11	11.5	12.1	13	13.9
	5	8.67	10.6	11.5	12.3	13.7	14.4	15.1	16.3	17.4	8.5	10.4	11.2	12	13.4	14.1	14.8	16	17.1
	6	10	12.3	13.3	14.2	15.9	16.7	17.5	18.9	20.2	9.84	12.1	13	13.9	15.6	16.3	17.1	18.5	19.8
WTV(A)/B5		14.9	18.3	19.7	21	23.6	24.7	25.9	28	29.9	14.6	17.9	19.3	20.6	23.1	24.2	25.4	27.4	29.3
WTV(A)/B7.5		20.5	25.1	27	29	32.3	33.9	35.5	38.4	41.1	20.1	24.6	26.5	28.4	31.7	33.3	34.8	37.7	40.3
WTV(A)/B10		27.6	33.8	36.4	39	43.6	45.7	47.9	51.8	55.4	27	33.1	35.7	38.2	42.7	44.8	46.9	50.7	54.2
WTV(A)/B12		32.3	39.7	42.9	45.8	51.2	53.8	56.3	60.8	65.1	31.7	38.9	42	44.9	50.2	52.7	55.2	59.6	63.8
Evaporating temperature 0°C											Evaporating temperature -10°C								
WTV(-)	0	0.65	0.79	0.86	0.92	1.02	1.07	1.12	1.21	1.3	0.62	0.76	0.82	0.88	0.98	1.03	1.08	1.17	1.25
	1	1.5	1.83	1.98	2.11	2.36	2.48	2.6	2.81	3.	1.44	1.76	1.9	2.03	2.27	2.38	2.49	2.69	2.88
	2	2.49	3.05	3.3	3.52	3.94	4.13	4.32	4.68	5	2.4	2.93	3.17	3.39	3.79	3.97	4.16	4.49	4.81
	3	3.99	4.88	5.27	5.64	6.3	6.61	6.92	7.48	8	3.83	4.7	4.07	5.42	6.06	6.36	6.66	7.2	7.7
	4	6.68	8.18	8.83	9.44	10.6	11.1	11.6	12.5	13.4	6.42	7.87	8.49	9.08	10.2	10.7	11.2	12.1	13
	5	8.17	10	10.8	11.6	12.9	13.6	14.2	15.3	16.4	7.86	9.63	10.4	11.1	12.4	13	13.6	14.7	15.7
	6	9.47	11.6	12.5	13.4	15	15.7	16.4	17.8	19	9.11	11.2	12	12.9	14.4	15.1	15.8	17.1	18.3
WTV(A)/B5		14	17.2	18.6	19.8	22.2	23.3	24.4	26.4	28.2	13.5	16.5	17.9	19.1	21.3	22.4	23.5	25.4	27.1
WTV(A)/B7.5		19.3	23.6	25.5	27.3	30.5	32	33.5	36.2	38.7	18.6	22.7	24.6	26.2	29.4	30.8	32.3	34.9	37.3
WTV(A)/B10		26	31.8	34.4	36.7	41.1	43.1	45.1	48.8	52.2	25	30.6	33	35.3	39.5	41.4	43.4	46.9	50.1
WTV(A)/B12		30.5	37.4	40.4	43.2	48.3	50.6	53	57.3	61.3	29.4	35.9	38.8	41.5	46.4	48.7	51	55.1	59
Evaporating temperature -20°C											Evaporating temperature -30°C								
WTV(-)	0	0.48	0.59	0.63	0.68	0.76	0.79	0.83	0.9	0.96	0.32	0.39	0.43	0.45	0.51	0.53	0.56	0.61	0.65
	1	1.1	1.35	1.46	1.56	1.74	1.83	1.91	2.06	2.21	0.74	0.91	0.98	1.05	1.17	1.23	1.28	1.38	1.48
	2	1.83	2.25	2.43	2.6	2.91	3.05	3.18	3.44	3.68	1.23	1.51	1.63	1.75	1.95	2.05	2.14	2.31	2.47
	3	2.93	3.6	3.89	4.16	4.65	4.88	5.1	5.51	5.9	1.97	2.42	2.62	2.8	3.13	3.28	3.43	3.71	3.97
	4	4.91	6.03	6.52	6.97	7.79	8.17	8.53	9.22	9.86	3.31	4.06	4.38	4.68	5.24	5.49	5.74	6.21	6.64
	5	6.01	7.38	7.97	8.53	9.53	10	10.5	11.4	12.1	4.05	4.97	5.36	5.73	6.41	6.72	7.02	7.59	8.12
	6	6.98	8.56	9.24	9.88	11	11.6	12.1	13.1	14	4.69	5.75	6.21	6.64	7.43	7.79	8.14	8.8	9.41
WTV(A)/B5		10.4	12.7	13.7	14.6	16.4	17.2	17.9	19.4	20.7	6.93	8.5	9.2	9.8	11	11.5	12.1	13.1	14
WTV(A)/B7.5		14.2	17.4	18.8	20.1	22.5	23.6	24.7	26.7	28.6	9.54	11.7	12.7	13.5	15.1	15.9	16.6	17.9	19.2
WTV(A)/B10		19.2	23.5	25.3	27.1	30.3	31.8	33.2	35.9	38.4	12.9	15.8	17	18.2	20.4	21.4	22.3	24.1	25.8
WTV(A)/B12		22.5	27.6	29.8	31.8	35.6	37.3	39	42.2	45.1	15.1	18.5	20	21.4	24	25.1	26.2	28.3	30.3
Evaporating temperature -40°C																			
WTV(-)	0	0.2	0.25	0.27	0.29	0.33	0.34	0.36	0.39	0.42									
	1	0.47	0.58	0.63	0.68	0.76	0.79	0.83	0.9	0.96									
	2	0.79	0.97	1.05	1.13	1.26	1.32	1.38	1.49	1.6									
	3	1.27	1.56	1.68	1.8	2.01	2.11	2.21	2.39	2.56									
	4	2.12	2.6	2.82	3.02	3.37	3.54	3.7	4	4.28									
	5	2.6	3.19	3.45	3.69	4.13	4.33	4.52	4.89	5.23									
	6	3.01	3.69	4	4.28	4.78	5.02	5.24	5.66	6.06									
WTV(A)/B5		4.48	5.5	5.9	6.3	7.1	7.4	7.8	8.43	9.02									
WTV(A)/B7.5		6.19	7.6	8.2	8.7	9.8	10.2	10.7	11.6	12.4									
WTV(A)/B10		8.31	10.2	11	11.7	13.1	13.8	14.4	15.6	16.6									
WTV(A)/B12		9.7	11.9	12.9	13.8	15.4	16.2	16.9	18.3	19.5									

Temperature responsive expansion valves(liquid injection)

WTV series

R22 Extend capacity KW (Extend KW capacities based on vapor free liquid refrigerant at +35°C)

Model		Pressure drop across valve (MPa)									Pressure drop across valve (MPa)								
		0.5	0.7	0.9	1	1.2	1.4	1.6	1.7	1.9	0.5	0.7	0.9	1	1.2	1.4	1.6	1.7	1.9
Evaporating temperature +15°C											Evaporating temperature +10°C								
WTV(-)	0	1.03	1.22	1.39	1.46	1.6	1.73	1.85	1.9	2.05	1.01	1.2	1.36	1.43	1.57	1.69	1.8	1.86	2.01
	1	2.53	3	3.4	3.58	3.92	4.23	4.52	4.66	5.04	2.48	2.94	3.33	3.51	3.84	4.15	4.44	4.58	4.95
	2	4.24	5.03	5.7	6.01	6.58	7.11	7.6	7.84	8.47	4.16	4.93	5.59	5.89	6.45	6.97	7.45	7.68	8.3
	3	6.78	8.02	9.1	9.59	10.5	11.3	12.1	12.5	13.5	6.64	7.86	8.92	9.4	10.3	11.1	11.9	12.3	13.3
	4	11	13.1	14.8	15.6	17.1	18.5	19.7	20.4	22	10.8	12.8	14.5	15.3	16.8	18.1	20.2	20.8	22.5
	5	13.5	15.9	18.1	19.1	20.9	22.5	24.1	24.9	26.9	13.2	15.6	17.7	18.7	20.5	22.1	23.6	24.4	26.3
	6	15.5	18.4	20.9	21.9	24.1	26	27.8	28.7	31	15.2	18	20.5	21.6	23.6	25.5	27.3	28.1	30.4
WTV(-) B5		16.2	19.2	21.7	23	25.1	27.1	29	29.9	32.3	15.9	18.8	21.3	22.5	24.6	26.6	28.4	29.3	31.7
WTV(-) B7.5		23.6	27.9	31.6	33.3	36.5	39.4	42.1	43.4	47	23.1	27.3	31	32.6	35.8	38.6	41.4	42.7	46.1
WTV(-) B10		32.4	38.4	43.6	45.9	50.3	54.4	58.2	60	64.8	31.8	37.6	42.7	45	49.3	53.3	57	58.8	63.5
WTV(-) B12		39.2	46.3	52.6	55.4	60.6	65.5	70	72.2	78.1	38.4	45.4	51.5	54.3	59.4	64.2	68.7	70.8	76.5
Evaporating temperature 0°C											Evaporating temperature -10°C								
WTV(-)	0	0.99	1.17	1.33	1.4	1.53	1.65	1.76	1.81	1.96	0.96	1.14	1.3	1.37	1.5	1.62	1.73	1.78	1.93
	1	2.43	2.87	3.26	3.44	3.76	4.06	4.34	4.47	4.83	2.37	2.81	3.18	3.35	3.67	3.97	4.24	4.37	4.73
	2	4.08	4.82	5.47	5.77	6.32	6.82	7.29	7.44	8.04	3.97	4.71	5.34	5.63	6.17	6.66	7.12	7.34	7.94
	3	6.5	7.7	8.73	9.2	10.1	10.9	11.6	12	13	6.34	7.51	8.52	8.98	9.84	10.6	11.4	11.8	12.7
	4	10.6	12.5	14.2	15	16.4	17.7	18.9	19.5	21.1	10.3	12.2	13.9	14.6	16	17.3	18.5	19.1	20.6
	5	12.9	15.3	17.3	18.3	20	21.6	23.1	23.8	25.8	12.5	14.9	16.9	17.9	19.6	21.1	22.6	23.3	25.2
	6	14.9	17.7	20	21.1	23.1	25	26.7	27.5	29.8	14.5	17.2	19.5	20.6	22.6	24.4	26.1	26.9	29.1
WTV(-) B5		15.6	18.4	20.9	22	24.1	26.1	27.9	28.7	31.2	15.2	18	20.4	21.5	23.6	25.5	27.2	28	30.3
WTV(-) B7.5		22.6	26.7	30.3	32	35	37.8	40.5	41.7	45.1	22	26.1	29.6	31.2	34.2	36.9	39.5	40.7	44
WTV(-) B10		31.1	36.8	41.8	44.1	48.3	52.1	55.8	57.5	62.1	30.4	36	40.8	43	47.1	50.9	54.4	56.1	60.6
WTV(-) B12		37.5	44.4	50.4	53.1	58.2	62.9	67.2	69.3	74.9	36.6	43.4	49.2	51.9	56.8	61.4	65.6	67.6	73.1
Evaporating temperature -20°C											Evaporating temperature -30°C								
WTV(-)	0	0.82	0.97	1.1	1.16	1.27	1.37	1.47	1.51	1.63	0.59	0.7	0.79	0.83	0.91	0.98	1.05	1.08	1.17
	1	2.01	2.38	2.7	2.9	3.1	3.4	3.6	3.7	4	1.41	1.67	1.9	2	2.2	2.4	2.6	2.7	2.92
	2	3.35	3.96	4.5	4.8	5.2	5.7	6.1	6.2	6.7	2.46	2.91	3.3	3.4	3.8	4.1	4.3	4.5	4.86
	3	5.36	6.34	7.2	7.6	8.4	9	9.7	10	10.8	3.87	4.58	5.2	5.5	6	6.5	6.9	7.1	7.68
	4	8.08	9.56	11.8	12.4	13.6	14.7	15.7	16.2	17.5	6.25	7.4	8.4	8.9	9.8	10.5	11.3	11.6	12.5
	5	10.7	12.7	14.4	15.2	16.6	18	19.2	19.8	21.4	7.67	9.07	10.3	10.9	11.9	12.9	13.8	14.2	15.4
	6	12.4	14.6	16.6	17.5	19.2	20.7	22.2	22.8	24.6	8.86	10.5	11.9	12.5	13.7	14.8	15.9	16.4	17.7
WTV(-) B5		12.9	15.2	17.3	18.3	20	21.6	23.1	23.8	25.7	9.23	10.9	12.4	13.1	14.3	15.5	16.6	17.1	18.5
WTV(-) B7.5		18.8	22.2	25.2	26.5	29.1	31.4	33.6	34.6	37.4	13.4	15.9	18	19	20.8	22.5	24	24.8	26.8
WTV(-) B10		25.8	30.6	34.7	36.6	40.1	43.3	46.3	47.7	51.6	18.5	21.8	24.8	26.2	28.7	31	33.1	34.2	37
WTV(-) B12		31.1	36.8	41.8	44.1	48.3	52.2	55.8	57.5	62.2	22.3	26.4	30	31.6	34.6	37.4	40	41.2	44.5
Evaporating temperature -40°C																			
WTV(-)	0	0.4	0.48	0.54	0.57	0.63	0.68	0.73	0.75	0.81									
	1	0.97	1.15	1.3	1.4	1.5	1.7	1.8	1.8	1.95									
	2	1.64	1.94	2.2	2.4	2.6	2.8	3	3.1	3.35									
	3	2.68	3.17	3.6	3.8	4.1	4.5	4.8	4.9	5.3									
	4	4.32	5.11	5.8	6.1	6.7	7.3	7.8	8	8.65									
	5	5.29	6.26	7.1	7.5	8.2	8.9	9.5	9.8	10.6									
	6	6.1	7.22	8.2	8.7	9.5	10.2	10.9	11.3	12.2									
WTV(-) B5		6.4	7.58	8.6	9	9.9	10.7	11.4	11.8	12.8									
WTV(-) B7.5		9.23	10.9	12.4	13.1	14.4	15.5	16.6	17.1	18.5									
WTV(-) B10		12.7	15.1	17.1	18.1	19.8	21.4	22.9	23.6	25.5									
WTV(-) B12		15.4	18.2	20.7	21.8	23.9	25.8	27.6	28.4	30.7									

Temperature responsive expansion valves(liquid injection)

WTV series

R407C Extend capacity KW (Extend KW capacities based on vapor free liquid refrigerant at +35°C)

Model		Pressure drop across valve (MPa)									Pressure drop across valve (MPa)								
		0.5	0.7	0.9	1	1.2	1.4	1.6	1.7	1.9	0.5	0.7	0.9	1	1.2	1.4	1.6	1.7	1.9
Evaporating temperature +15°C											Evaporating temperature +10°C								
WTV(-)	0	1.02	1.22	1.43	1.46	1.63	1.73	1.84	1.94	2.04	1	1.2	1.4	1.4	1.6	1.7	1.8	1.9	2
	1	2.55	3.1	3.47	3.67	3.98	4.29	4.58	4.73	5.11	2.5	3	3.4	3.6	3.9	4.2	4.5	4.6	5
	2	4.18	5.01	5.6	5.92	6.53	7.04	7.53	7.76	8.39	4.1	4.9	5.5	5.8	6.4	6.9	7.4	7.6	8.2
	3	6.43	7.65	8.67	9.08	10	10.8	11.5	11.9	12.9	6.3	7.5	8.5	8.9	9.8	10.6	11.3	11.7	12.6
	4	10.8	13	14.7	15.5	17	18.4	19.6	20.3	21.9	10.6	12.7	14.4	15.2	16.7	18.	19.3	19.8	21.5
	5	13.1	15.6	17.8	18.7	20.5	22.1	23.7	24.4	26.4	12.8	15.3	17.4	18.3	20.1	21.7	23.2	23.9	25.9
	6	15.3	18.4	20.8	21.9	24	25.9	27.7	28.6	30.9	15	18	20.4	21.5	23.5	25.4	27.2	28	30.3
WTV(-) WTVA/B5		16.3	19.5	22	23.3	25.5	27.6	29.5	30.4	32.8	16	19.1	21.6	22.8	25	27	28.9	29.8	32.2
WTV(-) WTVA/B7.5		23.7	28.3	32	33.8	37	40	42.8	44.1	47.7	23.2	27.7	31.4	33.1	36.3	39.2	41.9	43.2	46.7
WTV(-) WTVA/B10		32.6	39	44.2	46.5	51	55.1	59	60.8	65.7	31.9	38.2	43.3	45.6	50	54	57.8	59.5	64.4
WTV(-) WTVA/B12		39.3	46.9	53.3	56.1	61.5	66.4	71	73.2	79.2	38.5	46	52.2	55	60.3	65.1	69.6	71.8	77.6
Evaporating temperature 0°C											Evaporating temperature -10°C								
WTV(-)	0	1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	0.82	0.97	1.1	1.3	1.3	1.5	1.6	1.7	1.84
	1	2.4	2.9	3.3	3.5	3.8	4.1	4.4	4.5	4.9	2.08	2.47	2.8	3.2	3.3	3.7	3.9	4.2	4.54
	2	4	4.7	5.3	5.6	6.1	6.7	7.2	7.4	8	3.35	3.96	4.5	5.1	5.4	5.9	6.4	6.9	7.46
	3	6.1	7.2	8.2	8.7	9.4	10.2	10.9	11.2	12.2	5.2	6.17	7	7.9	8.3	9.1	9.9	10.6	11.5
	4	10.4	12.3	14	14.7	16	17.4	18.6	19.2	20.7	8.86	10.5	11.9	13.5	14.2	15.5	16.8	17.9	19.4
	5	12.5	14.8	16.8	17.7	19.3	21	22.5	23.2	25	10.6	12.6	14.3	16.2	17.1	18.7	20.2	21.6	23.4
	6	14.7	17.4	19.7	20.8	22.6	24.6	26.3	27.1	29.3	12.5	14.8	16.8	19	20	21.9	23.7	25.3	27.4
WTV(-) WTVA/B5		15.6	18.5	20.9	22.1	24	26.1	27.9	28.8	31.1	13.3	15.7	17.8	20.2	21.3	23.3	25.2	26.9	29.1
WTV(-) WTVA/B7.5		22.6	26.8	30.4	32	34.9	37.9	40.5	41.8	45.2	19.2	22.7	25.8	29.3	30.9	33.8	36.5	39	42.2
WTV(-) WTVA/B10		31.2	36.9	41.9	44.1	48.1	52.2	55.8	57.6	62.2	26.5	31.4	35.6	40.4	42.5	46.6	50.3	53.8	58.2
WTV(-) WTVA/B12		37.6	44.5	50.5	53.2	57.9	63	67.4	69.5	75.1	31.9	37.8	42.9	48.7	51.3	56.2	60.7	64.9	70.2
Evaporating temperature -20°C											Evaporating temperature -30°C								
WTV(-)	0	0.78	0.93	1.05	1.1	1.2	1.3	1.4	1.5	1.6	0.6	0.7	0.79	0.82	0.9	0.97	1.04	1.07	1.16
	1	1.9	2.26	2.56	2.8	3.1	3.3	3.5	3.6	3.9	1.41	1.67	1.9	2	2.2	2.4	2.5	2.6	2.8
	2	3.13	3.7	4.2	4.5	5	5.4	5.7	5.9	6.38	2.3	2.73	3.1	3.2	3.6	3.8	4.1	4.2	4.54
	3	4.98	5.9	6.7	7	7.6	8.3	8.8	9.1	9.84	3.5	4.14	4.7	5	5.5	5.9	6.3	6.5	7.03
	4	8.34	9.87	11.2	11.9	13	14	15	15.5	16.8	5.96	7.05	8	8.5	9.3	10	10.7	11.1	12
	5	10.2	12	13.7	14.3	15.7	16.9	18.1	18.7	20.2	7.2	8.55	9.7	10.2	11.2	12.1	12.9	13.3	14.4
	6	11.5	13.6	15.4	16.8	18.4	19.8	21.2	21.8	23.6	8.49	10	11.4	12	13.1	14.2	15.1	15.6	16.9
WTV(-) WTVA/B5		12.3	14.5	16.5	17.8	19.5	21.1	22.5	23.2	25.1	9	10.7	12.1	12.7	13.9	15.1	16.1	16.6	17.9
WTV(-) WTVA/B7.5		17.8	21.1	23.9	25.8	28.3	30.6	32.7	33.7	36.4	13	15.4	17.5	18.5	20.2	21.8	23.4	24.1	26.1
WTV(-) WTVA/B10		24.6	29.2	33.1	35.6	39	42.1	45	46.4	50.2	17.9	21.2	24.1	25.4	27.9	30.1	32.2	33.2	35.9
WTV(-) WTVA/B12		29.6	35	39.7	42.9	47	50.8	54.3	56	60.5	21.7	25.6	29.1	30.7	33.6	36.3	38.8	40	43.2
Evaporating temperature -40°C																			
WTV(-)	0	0.37	0.44	0.5	0.56	0.59	0.66	0.71	0.73	0.79									
	1	0.97	1.15	1.3	1.4	1.5	1.6	1.7	1.8	1.95									
	2	1.56	1.85	2.1	2.2	2.5	2.6	2.8	2.9	3.14									
	3	2.46	2.9	3.3	3.4	3.8	4.1	4.4	4.5	4.9									
	4	4.1	4.93	5.6	5.9	6.4	6.9	7.4	7.6	8.2									
	5	4.99	5.9	6.7	7.1	7.7	8.4	8.9	9.2	9.95									
	6	5.8	6.87	7.8	8.3	9.1	9.8	10.5	10.8	11.7									
WTV(-) WTVA/B5		6.2	7.3	8.3	8.8	9.6	10.4	11.1	11.4	12.3									
WTV(-) WTVA/B7.5		9.01	10.7	12.1	12.7	14	15.1	16.1	16.6	17.9									
WTV(-) WTVA/B10		12.4	14.7	16.7	17.6	19.2	20.8	22.2	22.9	24.8									
WTV(-) WTVA/B12		15	17.7	20.1	21.2	23.2	25.1	26.8	27.6	29.8									

Temperature responsive expansion valves(liquid injection)

WTV series

R404A/R507 Extend capacity KW (Extend KW capacities based on vapor free liquid refrigerant at +35°C)

Model		Pressure drop across valve (MPa)									Pressure drop across valve (MPa)								
		0.5	0.7	0.9	1	1.2	1.4	1.6	1.7	1.9	0.5	0.7	0.9	1	1.2	1.4	1.6	1.7	1.9
Evaporating temperature +10°C											Evaporating temperature 0°C								
WTV(-)	0	0.74	0.87	0.99	1.04	1.14	1.24	1.33	1.37	1.48	0.7	0.83	0.95	1	1.09	1.18	1.26	1.3	1.41
	1	1.7	2	2.3	2.4	2.6	2.8	3	3.1	3.34	1.6	1.9	2.2	2.3	2.5	2.7	2.9	3	3.2
	2	2.9	3.4	3.9	4.1	4.5	4.8	5.1	5.3	5.73	2.8	3.3	3.7	3.9	4.3	4.6	4.9	5.1	5.5
	3	4.6	5.4	6.2	6.5	7.1	7.7	8.24	8.49	9.2	4.4	5.2	5.9	6.2	6.8	7.3	7.8	8	8.9
	4	7.5	8.8	10	10.6	11.6	12.5	13.4	13.8	14.9	7.1	8.4	9.6	10.1	11.1	12	12.8	13.2	14.3
	5	9.1	10.8	12.2	12.9	14.1	15.3	16.4	16.9	18.2	8.7	10.3	11.7	12.3	13.5	14.6	15.6	16.1	17.4
WTV(-) 6		10.5	12.5	14.1	14.9	16.3	17.6	18.8	19.4	21	10.1	11.9	13.5	14.2	15.6	16.8	18	18.5	20
WTV(A)/B5		11.6	13.7	15.5	16.3	17.9	19.3	20.6	21.3	23	11	13.1	14.8	15.6	17.1	18.5	19.8	20.4	22.1
WTV(A)/B7.5		15.8	18.7	21.2	22.3	24.5	26.4	28.2	29.1	31.5	15.1	17.8	20.2	21.3	23.4	25.2	27	27.8	30
WTV(A)/B10		21.3	25.2	28.6	30.1	33	35.6	38.1	39.3	42.4	20.3	24	27.3	28.7	31.5	34	36.4	37.5	40.5
WTV(A)/B12		24.8	29.4	33.3	35.1	38.4	41.5	44.4	45.8	49.5	23.7	28	31.8	33.5	36.7	39.7	42.5	43.8	47.3
Evaporating temperature -10°C											Evaporating temperature -20°C								
WTV(-)	0	0.67	0.79	0.9	0.95	1.04	1.12	1.2	1.23	1.34	0.57	0.67	0.76	0.8	0.87	0.94	1.01	1.04	1.13
	1	1.5	1.8	2.1	2.2	2.4	2.6	2.8	2.9	3.1	1.3	1.5	1.7	1.8	2	2.2	2.3	2.4	2.6
	2	2.6	3.1	3.5	3.7	4.1	4.4	4.7	4.9	5.2	2.2	2.6	3	3.1	3.4	3.7	4	4.1	4.5
	3	4.2	4.9	5.6	5.9	6.4	7	7.5	7.7	8.3	3.5	4.2	4.7	5	5.4	5.9	6.3	6.5	7
	4	6.8	8	9.1	9.6	10.5	11.3	12.1	12.5	13.5	5.7	6.8	7.7	8.1	8.9	9.6	10.2	10.5	11.4
	5	8.3	9.8	11.1	11.7	12.8	13.8	14.8	15.2	16.4	6.9	8.2	9.3	9.9	10.8	11.7	12.5	12.9	13.9
WTV(-) 6		9.5	11.3	12.8	13.5	14.8	16	17.1	17.6	19.1	8	9.5	10.8	11.4	12.5	13.5	14.4	14.8	16
WTV(A)/B5		10.5	12.4	14	14.8	16.2	17.5	18.7	19.3	20.9	8.8	10.4	11.8	12.5	13.7	14.8	15.8	16.3	17.6
WTV(A)/B7.5		14.3	16.9	19.2	20.2	22.2	24	25.7	26.5	28.6	12.1	14.3	16.2	17.1	18.7	20.2	21.6	22.3	24.1
WTV(A)/B10		19.3	22.8	25.9	27.3	29.9	32.3	34.5	35.6	38.5	16.2	19.2	21.8	23	25.2	27.2	29.1	30	32.4
WTV(A)/B12		22.5	26.6	30.2	31.8	34.8	37.6	40.2	41.5	44.8	18.9	22.4	25.4	26.8	29.4	31.7	33.9	34.9	37.8
Evaporating temperature -30°C											Evaporating temperature -40°C								
WTV(-)	0	0.39	0.47	0.53	0.56	0.61	0.66	0.71	0.73	0.79	0.27	0.32	0.36	0.38	0.42	0.45	0.48	0.5	0.54
	1	0.89	1.06	1.2	1.3	1.4	1.5	1.6	1.7	1.84	0.6	0.7	0.8	0.9	1	1	1.1	1.1	1.2
	2	1.56	1.85	2.1	2.2	2.4	2.6	2.8	2.8	3.03	1.04	1.23	1.4	1.5	1.6	1.8	1.9	1.9	2.1
	3	2.46	2.9	3.3	3.5	3.8	4.1	4.4	4.5	4.86	1.64	1.94	2.2	2.4	2.6	2.8	3	3.1	3.35
	4	4.02	4.76	5.4	5.7	6.2	6.7	7.2	7.4	8	2.75	3.26	3.7	3.9	4.2	4.6	4.9	5	5.4
	5	4.8	5.7	6.5	6.9	7.6	8.2	8.7	9	9.73	3.35	3.96	4.5	4.7	5.1	5.6	5.9	6.1	6.6
WTV(-) 6		5.7	6.7	7.6	8	8.7	9.4	10.1	10.4	11.2	3.8	4.5	5.1	5.4	5.9	6.4	6.9	7.1	7.7
WTV(A)/B5		6.2	7.3	8.3	8.7	9.6	10.3	11.1	11.4	12.3	4.2	4.9	5.6	6	6.5	7	7.5	7.8	8.4
WTV(A)/B7.5		8.4	9.96	11.3	11.9	13.1	14.1	15.1	15.6	16.9	5.7	6.8	7.7	8.1	8.9	9.6	10.3	10.6	11.5
WTV(A)/B10		11.4	13.5	15.3	16.1	17.6	19	20.4	21	22.7	7.7	9.2	10.4	11	12	13	13.9	14.3	15.5
WTV(A)/B12		13.3	15.7	17.8	18.8	20.6	22.2	23.7	24.5	26.5	9	10.7	12.1	12.8	14	15.1	16.2	16.7	18.1