



Industrial Refrigeration Manual



innovating
TOGETHER

SUMMARY

GSV Series Industrial shut-off valves	3
LPF-E Series Electronic Expansion Valve	14
RFKE Series Thermostatic Expansion Valve	17
YSF Series Oil four-way valves (slide control valves)	23
YCQC Series Pressure Transmitter	25
YKF Multi-function pressure control valves (back pressure valves)	27

GSV Series

Industrial shut-off valves

Industrial shut-off valves (hereinafter referred to as shut-off valves), as shut-off valves, are widely used for equipment maintenance or emergency shutdown and other occasions where the flow path is shut off. SANHUA shut-off valves can be categorized into right-angle (A) and straight-through (S) types, and each type can be equipped with a bonnet or handwheel according to customers' needs.



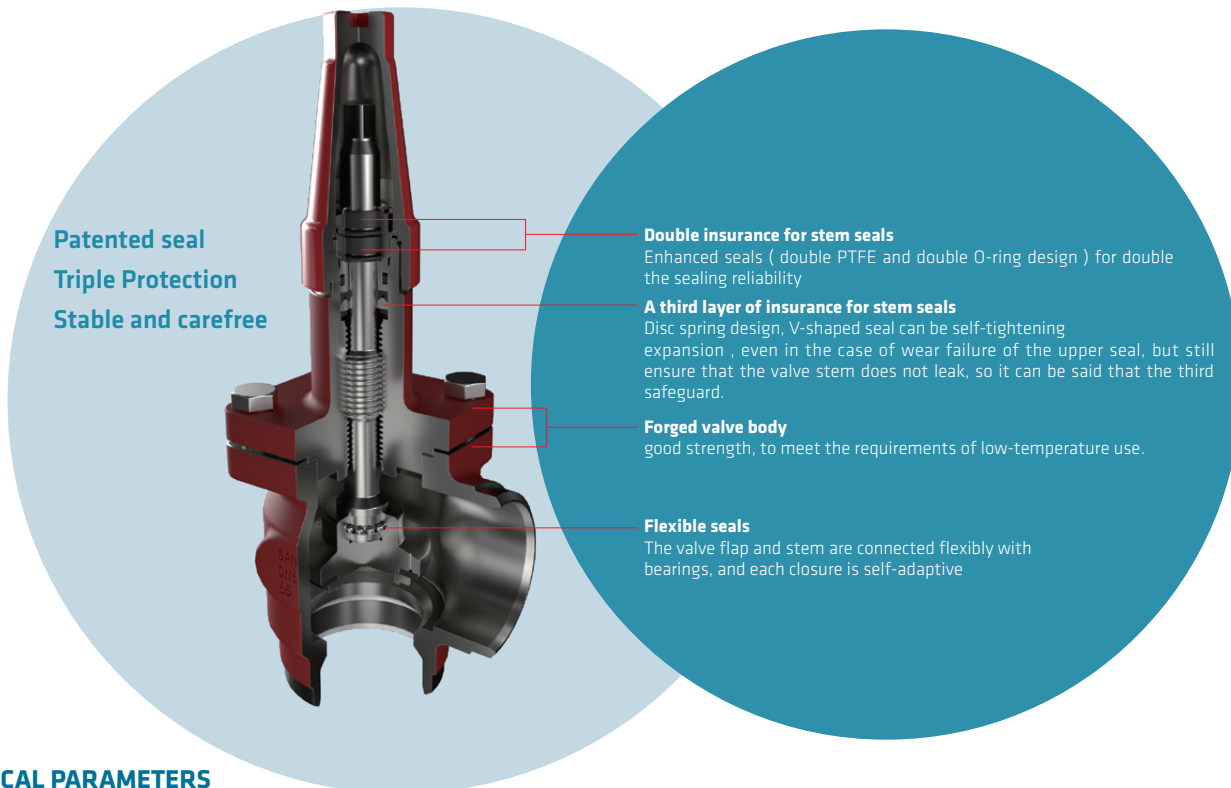
FEATURES

- ◆ Easy to maintain and easy to overhaul. Replacement spool parts are easy to install and do not require welding
- ◆ Easy to install and insulate, available in right-angle and straight-through models; standard and extended neck lengths available.
- ◆ Globe valve to meet the use of two-way flow function
- ◆ The main body of the valve is made of low-temperature resistant U.S. grade low-temperature steel.
- ◆ The shut-off valve is assembled with excellent performance stainless steel bolts to ensure safe and reliable valve sealing.

GENERAL SPECIFICATIONS

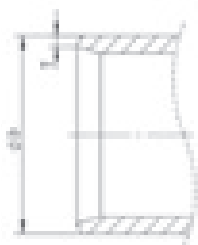
- ◆ Applicable refrigerants: R717 (NH₃), R744 (CO₂), propane, propylene, R134a, R404A, R507, R22, and refrigeration lubricants, etc.
- ◆ Ambient temperature: -60°C / +150°C (-76°F/+302°F)
- ◆ Maximum working pressure: 6.5MPa
- ◆ Installation: butt welding, inlet/outlet of the shut-off valve is welded to the refrigeration system nozzle.

TECHNICAL PARAMETERS



TECHNICAL PARAMETERS

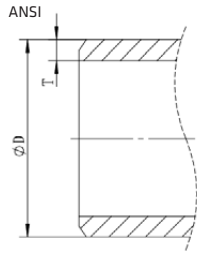
DIN



Nominal size	Nominal size	øD	T	øD	T	Cv- Right Angle	Cv- Straight-through	Kv- Right Angle	Kv- Straight-through
[mm]	[in]	[mm]	[mm]	[in]	[in]	[Usgal/min]	[Usgal/min]	[m³/h]	[m³/h]

Butt-Welding DIN(EN10220)

6	1/8	13.5	2.3	0.531	0.091	2.7	2.2	2.3	1.9
10	3/8	17.2	2.3	0.677	0.091	4.5	3.6	3.9	3.1
15	1/2	18	2.3	0.709	0.091	6	6	5.1	5.1
20	3/4	25	2.3	0.984	0.091	12	12	10.3	10.3
25	1	32	2.6	1.260	0.102	29.2	34.5	25	29.6
32	1 ¼	38	2.6	1.496	0.102	47.2	48.2	40.4	41.3
40	1 ½	45	2.6	1.772	0.102	54.6	49.5	46.8	42.4
50	2	57	2.9	2.244	0.114	90	90	77.1	77.1
65	2 ½	76	2.9	2.992	0.114	130	129	111.4	110.5
80	3	89	3.2	3.504	0.126	208	176	178.2	150.8
100	4	108	3.6	4.252	0.142	364	323	311.9	276.8
125	5	133	4	5.236	0.157	586	511	502.1	437.9
150	6	159	4.5	6.260	0.177	792	714	678.7	611.8
200	8	219	6.3	8.622	0.248	1353	1198	1159.4	1026.6

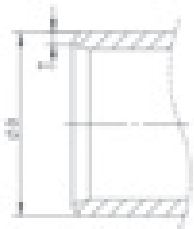


Nominal size	Nominal size	øD	T	øD	T	Cv- Right Angle	Cv- Straight-through	Kv- Right Angle	Kv- Straight-through
[mm]	[in]	[mm]	[mm]	[in]	[in]	[Usgal/min]	[Usgal/min]	[m³/h]	[m³/h]

Butt-weld ANSI

6	1/8	13.5	3	0.531	0.118	2.7	2.2	2.3	1.9
10	3/8	17.2	3.2	0.677	0.126	4.5	3.6	3.9	3.1
15	1/2	18	3.7	0.709	0.146	6	6	5.1	5.1
20	3/4	25	4	0.984	0.157	12	12	10.3	10.3
25	1	32	4.6	1.260	0.181	25.2	28.7	21.6	24.6
32	1 ¼	38	4.9	1.496	0.193	34.7	38.6	29.7	33.1
40	1 ½	45	5.1	1.772	0.201	51.9	49.7	44.5	42.6
50	2	57	3.9	2.244	0.154	88.9	77.5	76.2	66.4
65	2 ½	76	5.2	2.992	0.205	140	118	120	101.1
80	3	89	5.5	3.504	0.217	208	176	178.2	150.8
100	4	108	6	4.252	0.236	364	323	311.9	276.8
125	5	133	6.6	5.236	0.260	586	511	502.1	437.9
150	6	159	7.1	6.260	0.280	792	714	678.7	611.8
200	8	219	8.2	8.622	0.323	1353	1198	1159.4	1026.6

GOST



Nominal size	Nominal size	øD	T	øD	T	Cv- Right Angle	Cv- Straight-through	Kv- Right Angle	Kv- Straight-through
[mm]	[in]	[mm]	[mm]	[in]	[in]	[Usgal/min]	[Usgal/min]	[m³/h]	[m³/h]

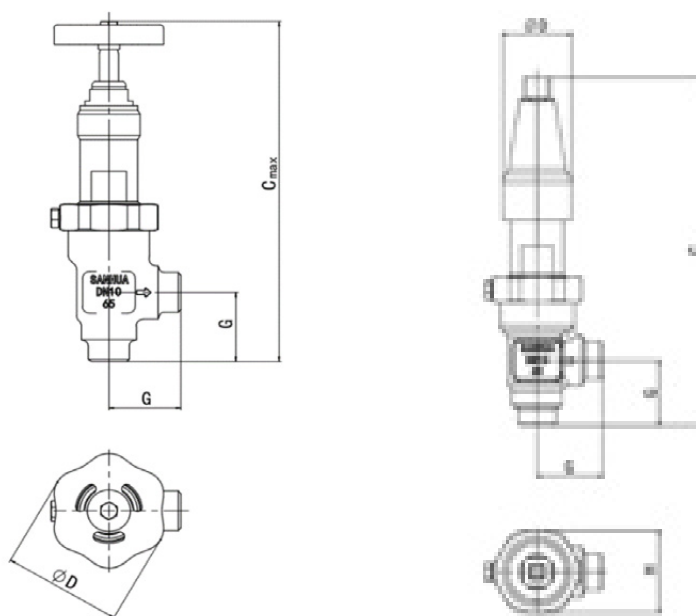
Butt-weld GOST

6	1/8	14	2.5	0.551	0.098	3.25	2.4	2.8	2.1
10	3/8	17.2	2	0.677	0.079	4.5	3.6	3.9	3.1
15	1/2	18	2	0.709	0.079	6	6	5.1	5.1
20	3/4	25	2.5	0.984	0.098	12	12	10.3	10.3
25	1	32	3	1.260	0.118	25.2	28.7	21.6	24.6
32	1 ¼	38	3	1.496	0.118	34.7	38.6	29.7	33.1
40	1 ½	45	3	1.772	0.118	51.9	49.7	44.5	42.6
50	2	57	3.5	2.244	0.138	88.9	77.5	76.2	66.4
65	2 ½	76	2.9	3.000	0.110	140	118	120	101.1
80	3	89	3.2	3.504	0.130	208	176	178.2	150.8
100	4	108	4	4.252	0.157	364	323	311.9	276.8
125	5	133	4	5.236	0.157	586	511	502.1	437.9
150	6	159	4.5	6.260	0.177	792	714	678.7	611.8
200	8	219	6	8.622	0.236	1353	1198	1159.4	1026.6

* Kv or Cv values are reference values and may vary according to different interface standards, subject to approved drawings.

DIMENSIONS

GSV6-10 Right Angle



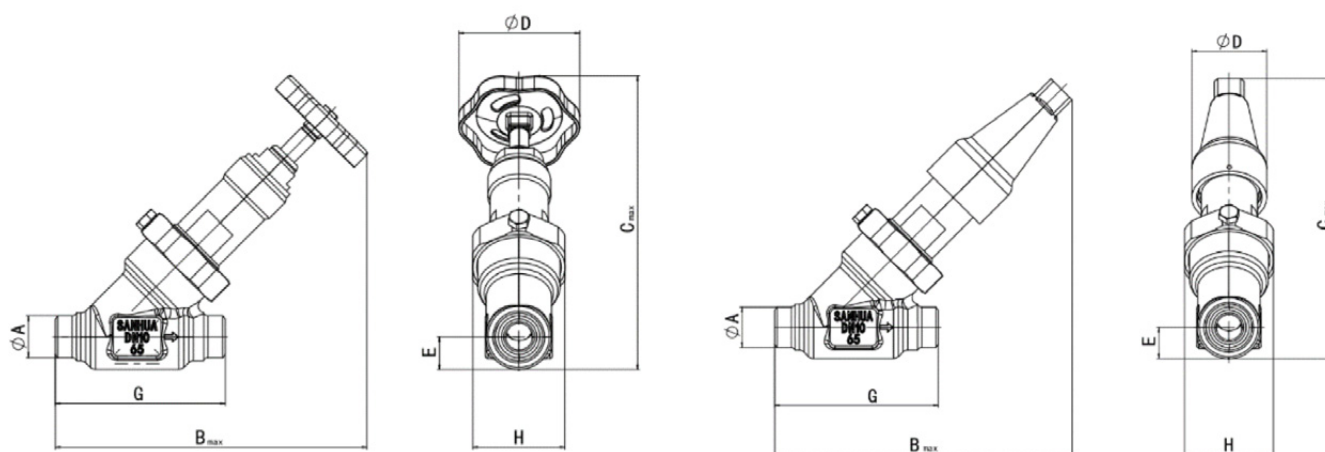
GSV6-10 Right Angle Handwheel Type

Model	Nominal size		Cmax	G	ØD	Weight (Kg)
GSV6A111	[mm]	6	147	30	50	0.55
	[in]	1/4	5.79	1.18	1.93	
GSV10A111	[mm]	10	147	30	50	0.55
	[in]	3/8	5.79	1.18	1.93	

GSV6-10 Right Angle Cap Type

Model	Nominal size		Cmax	G	ØD	H	Weight (Kg)
GSV6A011	[mm]	6	160	30	49	38	0.54
	[in]	1/4	6.30	1.18	1.93	1.50	
GSV10A011	[mm]	6	160	30	49	38	0.54
	[in]	3/8	6.30	1.18	1.93	1.50	

GSV6-10 Straight Type



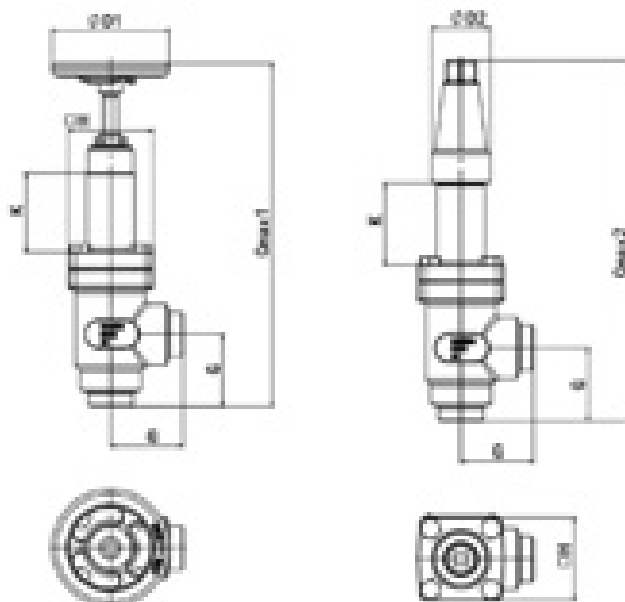
GSV6-10 Straight-through Handwheel Type

Model	Nominal size		Cmax	Bmax	E	G	øD	H	Weight (Kg)
GSV6S111	[mm]	6	121	130	13.5	70	50	38	0.62
	[in]	1/4	4.80	5.12	0.53	2.76	1.93	1.50	
GSV10S111	[mm]	10	121	130	13.5	70	50	38	0.62
	[in]	3/8	4.80	5.12	0.53	2.76	1.93	1.50	

GSV6-10 Straight-through Bonnet Type

Model	Nominal size		C	B	E	G	øD	H	Weight (Kg)
GSV6S001	[mm]	6	120	127	13.5	70	32	38	0.61
	[in]	1/4	4.72	5.00	0.53	2.76	1.26	1.50	
GSV10S001	[mm]	6	120	127	13.5	70	32	38	0.61
	[in]	3/8	4.72	5.00	0.53	2.76	1.26	1.50	

GSV15-40 Right Angle



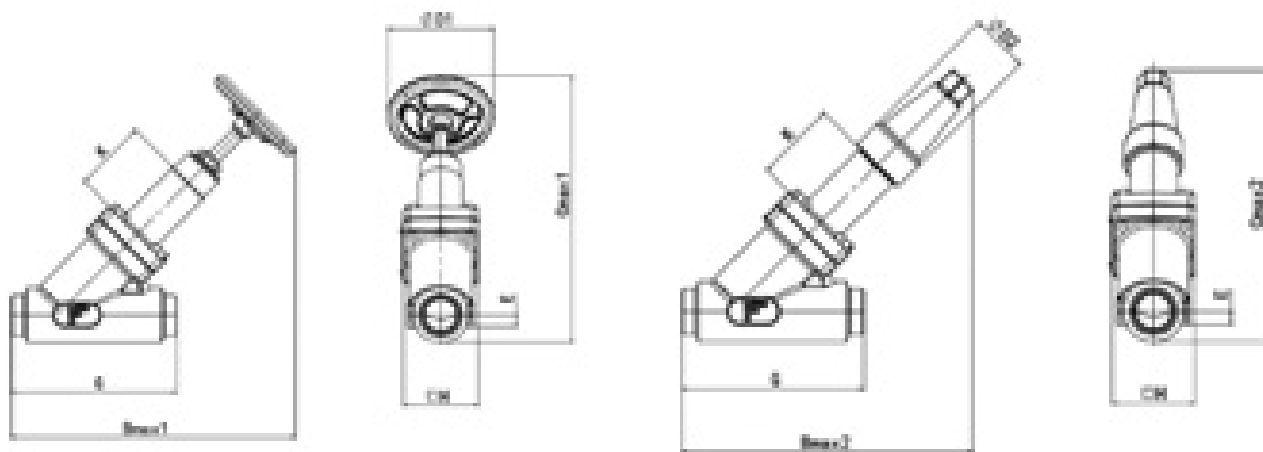
GSV15-40 Right Angle Handwheel Type

Model	Nominal size		K	Cmax1	G	øD1	H	Weight (Kg)
GSV15A101L	[mm]	15	68	255	45	65	60	1.85
	[in]	1/2	2.68	10.04	1.77	2.56	2.36	
GSV20A101L	[mm]	20	68	255	45	65	60	1.86
	[in]	3/4	2.68	10.04	1.77	2.56	2.36	
GSV25A101L	[mm]	25	68	285	62	80	70	3.71
	[in]	1	2.68	11.22	2.44	3.15	2.76	
GSV32A101L	[mm]	32	68	285	62	80	70	3.71
	[in]	1 ¼	2.68	11.22	2.44	3.15	2.76	
GSV40A101L	[mm]	40	68	285	62	80	70	3.6
	[in]	1 ½	2.68	11.22	2.44	3.15	2.76	

GSV15-40 Right Angle Bonnet Type

Model	Nominal size		K	Cmax2	G	øD2	H	Weight (Kg)
GSV15A001L	[mm]	15	68	255	45	65	60	1.85
	[in]	1/2	2.68	10.04	1.77	2.56	2.36	
GSV20A001L	[mm]	20	68	255	45	65	60	1.9
	[in]	3/4	2.68	10.04	1.77	2.56	2.36	
GSV25A001L	[mm]	25	68	295	62	100	70	3.74
	[in]	1	2.68	11.61	2.44	3.94	2.76	
GSV32A001L	[mm]	32	68	295	62	100	70	3.73
	[in]	1 ¼	2.68	11.61	2.44	3.94	2.76	
GSV40A001L	[mm]	40	68	295	62	100	70	3.63
	[in]	1 ½	2.68	11.61	2.44	3.94	2.76	

GSV15-40 Straight Type



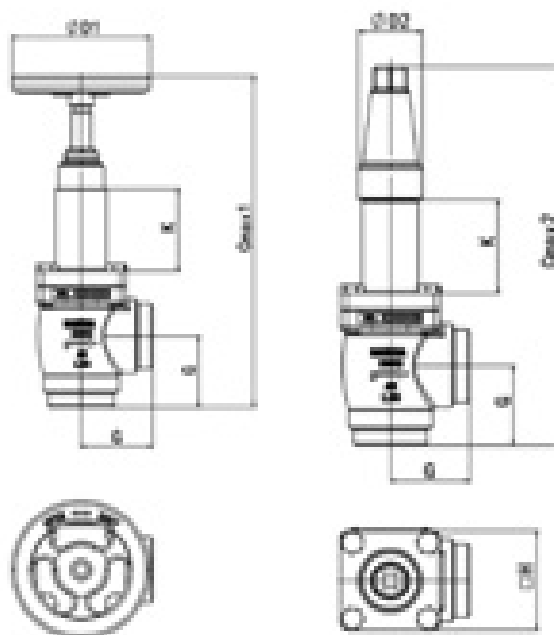
GSV15-40 Straight-through Handwheel Type

Model	Nominal size		K	Cmax1	Bmax1	G	E	øD1	H	Weight (Kg)
GSV15S101L	[mm]	15	60.2	191	212	120	16	54	62.5	2.1
	[in]	1/2	2.37	7.52	8.35	4.72	0.63	2.13	2.46	
GSV20S101L	[mm]	20	60.2	191	212	120	16	54	62.5	2.1
	[in]	3/4	2.37	7.52	8.35	4.72	0.63	2.13	2.46	
GSV25S101L	[mm]	25	60.6	233	250	155	26	80	70	4.49
	[in]	1	2.39	9.17	9.84	6.10	1.02	3.15	2.76	
GSV32S101L	[mm]	32	60.6	233	250	155	26	80	70	4.38
	[in]	1 ¼	2.39	9.17	9.84	6.10	1.02	3.15	2.76	
GSV40S101L	[mm]	40	60.6	233	250	155	26	80	70	4.14
	[in]	1 ½	2.39	9.17	9.84	6.10	1.02	3.15	2.76	

GSV15-40 Straight-through Bonnet Type

Model	Nominal size		K	Cmax2	Bmax2	G	E	øD2	H	Weight (Kg)
GSV15S001L	[mm]	15	60.2	187	208	120	16	41	62.5	2.2
	[in]	1/2	2.37	7.36	8.19	4.72	0.63	1.61	2.46	
GSV20S001L	[mm]	20	60.2	187	208	120	16	41	62.5	2.1
	[in]	3/4	2.37	7.36	8.19	4.72	0.63	1.61	2.46	
GSV25S001L	[mm]	25	60.6	232	248	155	26	50	70	4.53
	[in]	1	2.39	9.13	9.76	6.10	1.02	1.97	2.76	
GSV32S001L	[mm]	32	60.6	232	248	155	26	50	70	4.42
	[in]	1 ¼	2.39	9.13	9.76	6.10	1.02	1.97	2.76	
GSV40S001L	[mm]	40	60.6	232	248	155	26	50	7	4.18
	[in]	1 ½	2.39	9.13	9.76	6.10	1.02	1.97	0.28	

GSV50-65 Right Angle



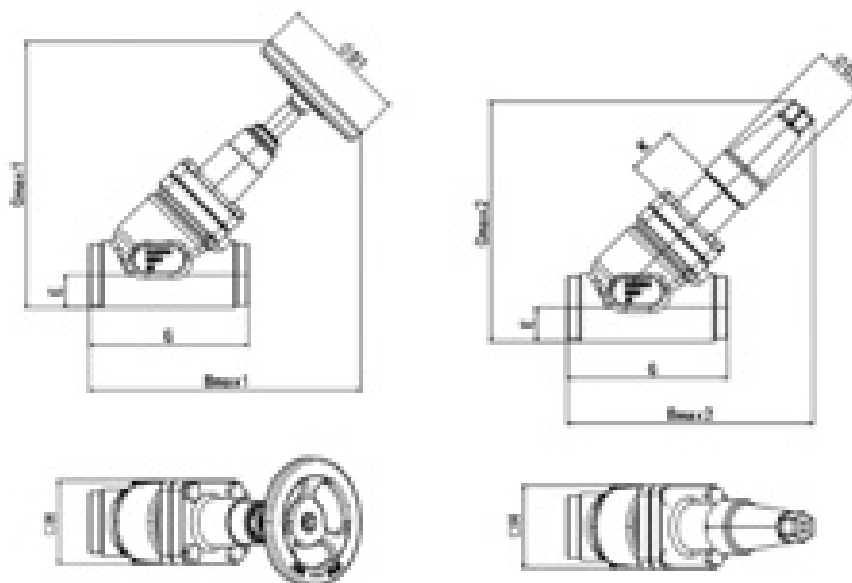
GSV50-65 Right Angle Handwheel Type

Model	Nominal size		K	Cmax1	G	øD1	Weight (Kg)
GSV50A101	[mm]	50	43.5	254	60	100	4.0
	[in]	2	1.71	10	2.36	3.94	
GSV65A101	[mm]	65	52.5	287	70	100	5.4
	[in]	2 ½	2.07	11.30	2.76	3.94	

GSV50-65 Right Angle Bonnet Type

Model	Nominal size		K	Cmax2	G	øD2	H	Weight (Kg)
GSV50A001	[mm]	50	43.5	269	60	50	77	4.0
	[in]	2	1.71	10.59	2.36	1.97	3.03	
GSV65A001	[mm]	65	52.5	294	70	50	90	5.4
	[in]	2 ½	2.07	11.57	2.76	1.97	3.54	

GSV50-65 Straight-through



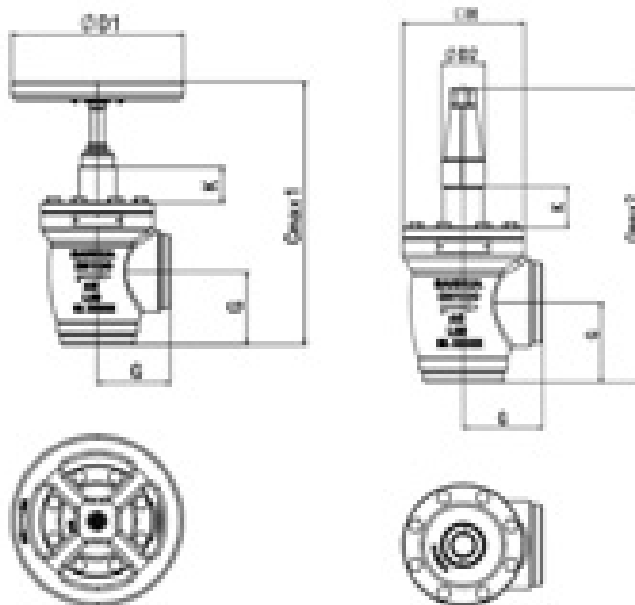
GSV50-65 Straight-through Handwheel Type

Model	Nominal size		K	Cmax1	Bmax1	G	E	øD1	H	Weight (Kg)
GSV50S101	[mm]	50	72	235	240	148	31	100	77	4.7
	[in]	2	2.83	9.25	9.45	5.83	1.22	3.94	3.03	
GSV65S101	[mm]	65	63	274	276	176	40	100	90	6.9
	[in]	2 ½	2.48	10.79	10.87	6.93	1.57	3.94	3.54	

GSV50-65 Straight-through Bonnet Type

Model	Nominal size		K	Cmax2	Bmax2	G	E	øD2	H	Weight (Kg)
GSV50S001	[mm]	50	43.5	221	226	148	31	50	77	4.6
	[in]	2	1.71	8.70	8.90	5.83	1.22	1.97	3.03	
GSV65S001	[mm]	65	52.5	251	254	176	40	50	90	6.8
	[in]	2 ½	2.07	9.88	10	6.93	1.57	1.97	3.54	

GSV80-200 Right Angle



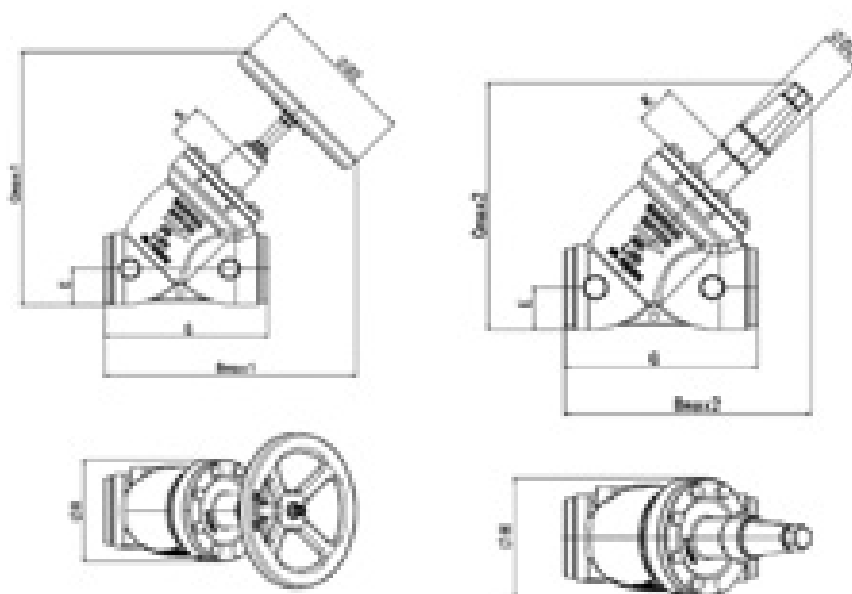
GSV80-200 Right Angle Hand wheel Type

Model	Nominal size		K	Cmax1	G	øD1	Weight (Kg)
GSV80A101	[mm]	80	54	328	90	200	10.3
	[in]	3	2.13	12.91	3.54	7.87	
GSV100A101	[mm]	100	52	383	106	250	16.4
	[in]	4	2.05	15.08	4.17	9.84	
GSV125A101	[mm]	125	74.5	496	128	320	29
	[in]	5	2.93	19.53	5.04	12.60	
GSV150A101	[mm]	150	79	550	145	320	39
	[in]	6	3.11	21.65	5.71	12.60	
GSV200A101	[mm]	200	76	640	180	400	73
	[in]	8	2.99	25.20	7.09	15.75	

GSV80-200 Right Angle Bonnet Type

Model	Nominal size		K	Cmax2	G	øD2	øH	Weight (Kg)
GSV80A001	[mm]	80	54	357	90	58	130	10.0
	[in]	3	2.13	14.06	3.54	2.28	5.12	
GSV100A001	[mm]	100	52	383	106	58	163	15.8
	[in]	4	2.05	15.08	4.17	2.28	6.42	
GSV125A001	[mm]	125	74.5	534	128	74	198	30
	[in]	5	2.93	21.02	5.04	2.91	7.80	
GSV150A001	[mm]	150	79	568	145	74	220	41
	[in]	6	3.11	22.36	5.71	2.91	8.66	
GSV200A001	[mm]	200	76	680	180	86	276	75
	[in]	8	2.99	26.77	7.09	3.39	10.87	

GSV80-200 Straight-through



GSV80-200 Straight-through Handwheel Type

Model	Nominal size		K	Cmax1	Bmax1	G	E	øD1	øH	Weight (Kg)
GSV80S101	[mm]	80	54	340	339	216	49	200	130	12.3
	[in]	3	2.13	13.39	13.35	8.50	1.93	7.87	5.12	
GSV100S101	[mm]	100	52	409	407	264	58.5	200	163	19.9
	[in]	4	2.05	16.10	16.02	10.39	2.30	9.84	6.42	
GSV125S101	[mm]	125	74.5	525	514	322	71.5	320	198	32.9
	[in]	5	2.93	20.67	20.24	12.68	2.81	12.60	7.80	
GSV150S101	[mm]	150	79	580	563	370	88	320	220	48.7
	[in]	6	3.11	22.83	22.17	14.57	3.46	12.60	8.66	
GSV200S101	[mm]	200	76	707	689	464	114	400	276	90.6
	[in]	8	2.99	27.83	27.13	18.27	4.49	15.75	10.87	

GSV80-200 Straight-through Bonnet Type

Model	Nominal size		K	Cmax2	Bmax2	G	E	øD2	øH	Weight (Kg)
GSV80S001	[mm]	80	54	305	304	216	49	58	130	11.9
	[in]	3	2.13	12.01	11.97	8.50	1.93	2.28	5.12	
GSV100S001	[mm]	100	52	338	337	264	58.5	58	163	19.3
	[in]	4	2.05	13.31	13.27	10.39	2.30	2.28	6.42	
GSV125S001	[mm]	125	74.5	451	447	322	71.5	74	198	32.6
	[in]	5	2.93	17.76	17.60	12.68	2.81	2.91	7.80	
GSV150S001	[mm]	150	79	495	482	370	88	74	220	47.4
	[in]	6	3.11	19.49	18.98	14.57	3.46	2.91	8.66	
GSV200S001	[mm]	200	76	609	592	464	114	86	276	89.4
	[in]	8	2.99	23.98	23.31	18.27	4.49	3.39	10.87	

LPF-E Series Electronic Expansion Valve

As a refrigerant, ammonia is environmentally friendly and has low energy consumption. LPF-E series electronic expansion valves are especially designed for ammonia system, can achieve the automatic regulation of ammonia refrigerant.



FEATURES

- ◆ Uni-flow; low inner leakage when the valve is closed, the effect is equivalent to the solenoid valve
- ◆ With self-contained filter
- ◆ Compatible with Sanhua SEC series controller
- ◆ More stable than thermostatic expansion valve when used as the economizer expansion valve

GENERAL SPECIFICATIONS

- ◆ Applicable refrigerant: R717
- ◆ 500 steps (full stroke); 32 ± 20 opening steps
- ◆ Ambient temperature min./max.: $-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$ (duty cycle rate below 40%)
- ◆ Medium temperature TS min./max.: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (duty cycle rate below 40%)
- ◆ Relative humidity: below 95%RH
- ◆ Maximum operating pressure: 35bar
- ◆ MOPD: 26bar

ELECTRICAL PARAMETERS

- ◆ Rated voltage: 12VDC ($\pm 10\%$), rectangular wave (duty cycle rate below 40%)
- ◆ Actuating mode: 4-phase 8-step permanent magnet stepping motor of direct-acting type
- ◆ Excitation mode: 1-2 phase excitation, uni-polar actuation
- ◆ Coil current: 260mA/phase (20°C)
- ◆ Coil resistance: $46 \pm 3.7\Omega$ /phase (20°C)
- ◆ Insulation class of coil: E
- ◆ Protection class: IP 67

TECHNICAL PARAMETERS

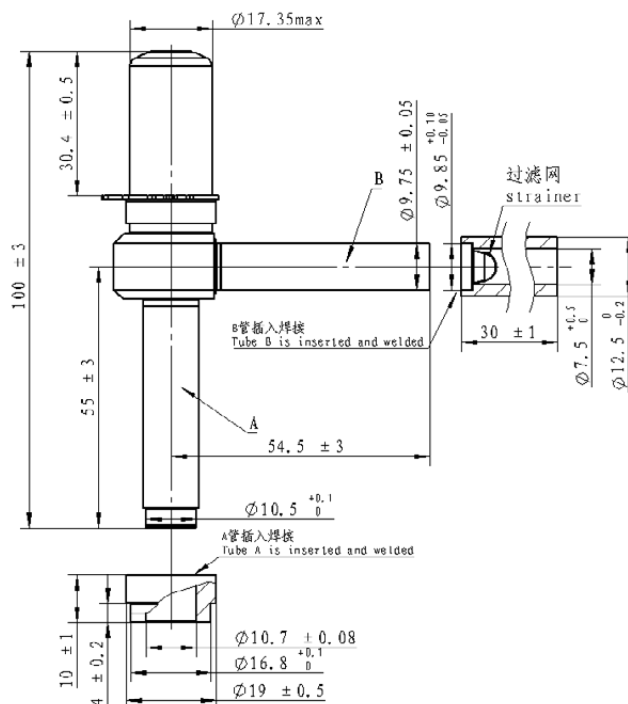
Condition 1: Tc/Te/Sc/SH: 30°C/-25°C/20K/6K (as the main circuit expansion valve)

Model	Diameter [mm]	Kv [m³/h]	Cooling Capacity [kW]
			R717
LPF08E-001	0.8	0.025	14.96
LPF14E-001	1.4	0.08	46.21
LPF18E-001	1.8	0.12	63.86
LPF32E-001	3.2	0.30	135.28

Condition 2: Tc/Te/Sc/SH: 35°C/-8°C/3K/5K (as the economizer expansion valve)

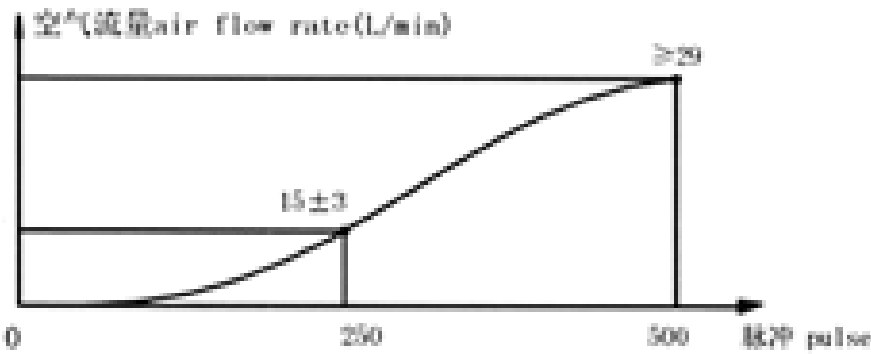
Model	Diameter [mm]	Kv [m³/h]	Cooling Capacity [kW]
			R717
LPF08E-001	0.8	0.025	13.61
LPF14E-001	1.4	0.08	42.05
LPF18E-001	1.8	0.12	58.10
LPF32E-001	3.2	0.30	123.08

DIMENSIONS



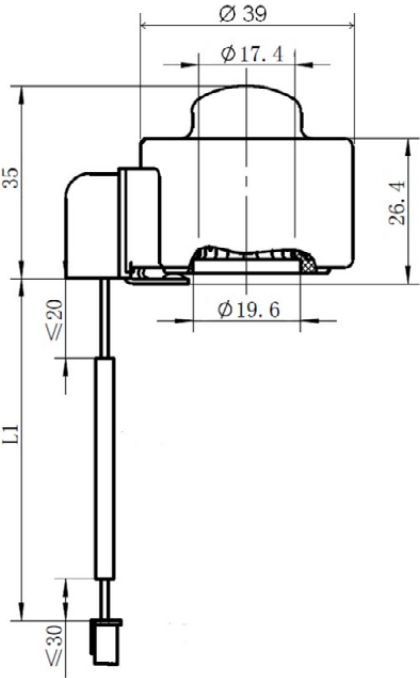
Model	Dimensions[mm]				
	F	G	H	Øe inlet	Ød outlet
LPF08E-001	100	55	54.5	9.75mm	10.5mm
LPF14E-001				9.75mm	10.5mm
LPF18E-001				9.75mm	10.5mm
LPF32E-001				9.75mm	10.5mm

FLOW CHARACTERISTIC



COIL DIMENSIONS

Coil Model	Cable Length [mm]
	L1
PQ-M24012-000007	1500
PQ-M24012-000008	3000
PQ-M24012-000009	6000
PQ-M24012-000010	9000



RFKE Series Thermostatic Expansion Valve

RFKE series thermostatic expansion valves are especially designed for ammonia system, mainly used to adjust the mass flow of refrigerant into the evaporator. This series products can be typically used in industrial refrigeration field.



FEATURES

- ◆ Applicable for ammonia system
- ◆ Exchangeable valve orifice; detachable valve body; convenient for maintenance
- ◆ All stainless steel design of power head; high corrosion resistance; long lifetime

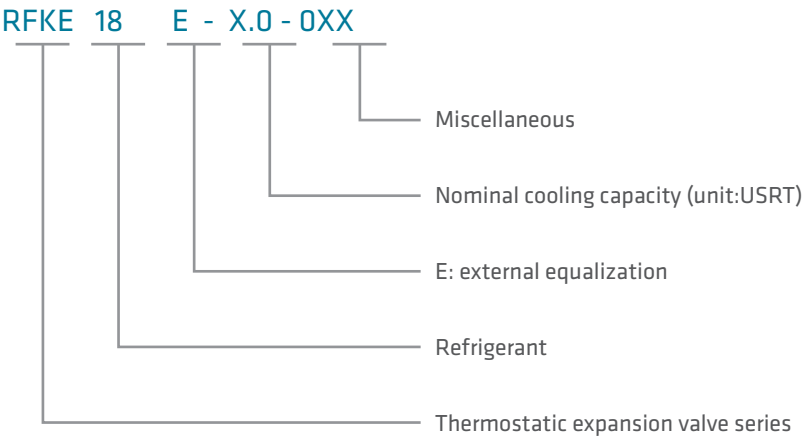
GENERAL SPECIFICATIONS

- ◆ Applicable refrigerant: R717
- ◆ Capacity range: 3.52~70.33kW
- ◆ Maximum operating pressure: 1.9MPa
- ◆ Evaporating temperature range: -50~+0°C(RFKE18E-X.0-00X); -20~+30°C(RFKE18E-X.0-01X)
- ◆ Factory static superheat setting: 5K±1K; superheat adjustment range: 0~8K

TECHNICAL PARAMETERS

- ◆ Import and export flange connection; flange connection size: $\phi 17 \times 6$ mm
- ◆ Capillary length: 5m
- ◆ Equalization port: $\phi 6$ mm

MODEL DESIGNATION LEGEND



Description of refrigerant types	
Code	Refrigerant
18	R717

POWER HEAD PRINTING INSTRUCTIONS

Code	Description
KE18E	Product series
-20/+30°C	Evaporating temperature (Celsius)
-4/+86°F	Evaporating temperature (Fahrenheit)
R717	Refrigerant
MWP 1.9MPa	MWP (unit: Mpa)
MWP 276psig	MWP (unit: Psig)



ORIFICE PRINTING INSTRUCTIONS

Code	Description
KE20	Product series
1TR	Orifice cooling capacity
R717	Refrigerant
190401	Production batch
X	Part code



TECHNICAL PARAMETERS

Table A : -50°C ~ 0°C

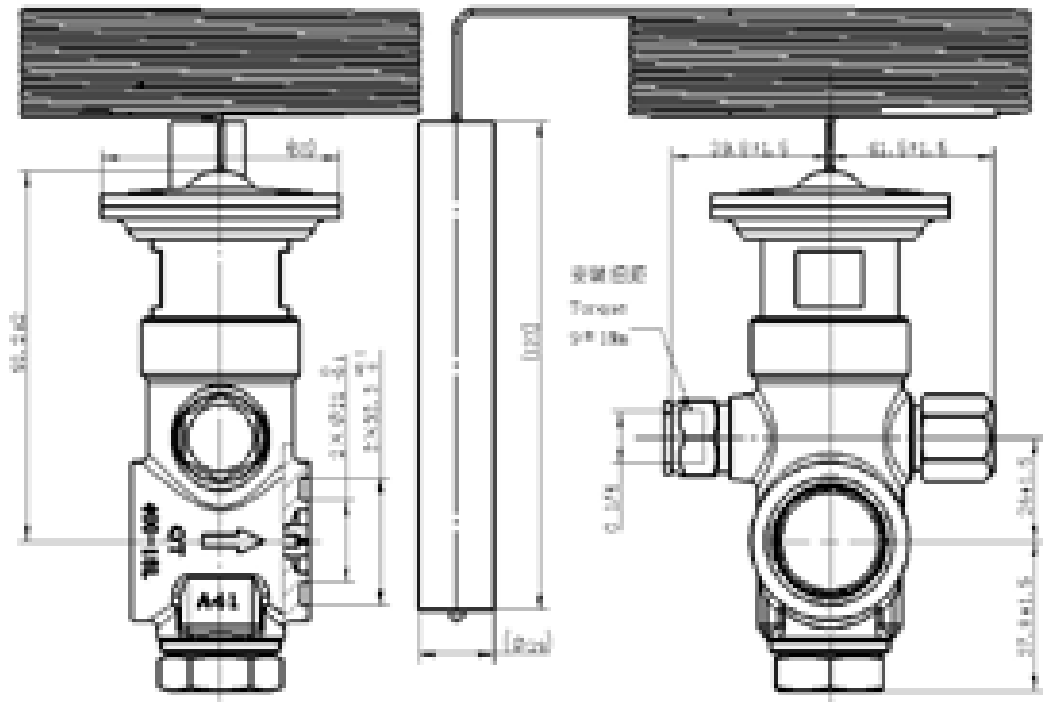
Refrigerant	Nominal Capacity*	Flange Connection		Ext. Equal.	Model
		Inlet	Outlet	Solder	
	[kW]	[inch]	[inch]	[mm]	
R717	3.5	1/2	1/2	6	RFKE18E-1.0-001
	7	1/2	1/2	6	RFKE18E-2.0-002
	10.5	1/2	1/2	6	RFKE18E-3.0-003
	17.5	1/2	1/2	6	RFKE18E-5.0-004
	28	1/2	1/2	6	RFKE18E-8.0-005
	42	1/2	1/2	6	RFKE18E-12.0-006
	70	1/2	1/2	6	RFKE18E-12.0-007

Table B : -20°C ~ +30°C

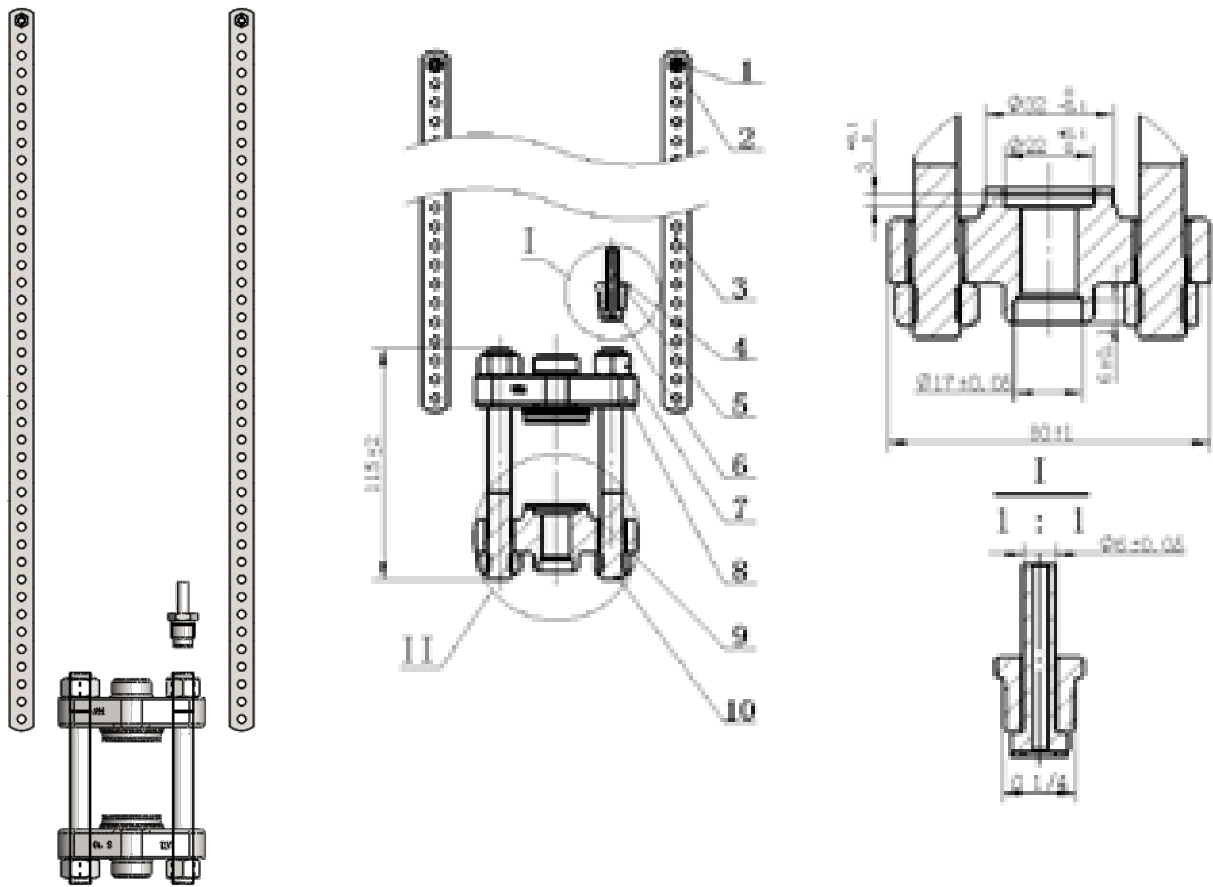
Refrigerant	Nominal Capacity*	Flange Connection		Ext. Equal.	Model
		Inlet	Outlet	Solder	
	[kW]	[inch]	[inch]	[mm]	
R717	3.5	1/2	1/2	6	RFKE18E-1.0-011
	7	1/2	1/2	6	RFKE18E-2.0-012
	10.5	1/2	1/2	6	RFKE18E-3.0-013
	17.5	1/2	1/2	6	RFKE18E-5.0-014
	28	1/2	1/2	6	RFKE18E-8.0-015
	42	1/2	1/2	6	RFKE18E-12.0-016
	70	1/2	1/2	6	RFKE18E-12.0-017

*Nominal working conditions: evaporation temperature: -15°C ; condensing temperature: 32 °C ; Subcooling Δt = 4K ahead of the valve

DIMENSIONS



INSTALLATION ACCESSORIES



INSTALLATION ACCESSORIES LISTS

NO.	Item	Quantity	Material
1	Screw	2	Stainless steel
2	Nut	2	Stainless steel
3	Installation card	2	Stainless steel
4	Connector	1	Carbon steel
5	Adapter	1	Stainless steel
6	Gasket	1	Aluminium plate
7	Nut	4	Carbon steel
8	Flange	2	Cast iron
9	Gasket	2	Non-asbestos gasket
10	Screw	2	Carbon steel

Cooling Capacity Extension Table

Table1: R717 (-50°C~0°C)

Model	Cooling capacity [KW]							
	Pressure drop ΔP [bar]							
	2	4	6	8	10	12	14	16
Evaporating temperature: 0°C								
RFKE18E-1.0-001	2.1	2.9	3.3	3.7	4.1	4.3	4.5	4.8
RFKE18E-2.0-002	4.1	5.6	6.5	7.4	8.1	8.6	9	9.3
RFKE18E-3.0-003	5.9	8.3	9.9	11.2	12.1	13	13.5	14
RFKE18E-5.0-004	10.5	14.1	16.7	18.6	20.2	21.5	22.4	23.3
RFKE18E-8.0-005	15.7	22.1	26.2	29.7	32	34.3	36.1	37.2
RFKE18E-12.0-006	24.4	33.1	39.5	44.5	48.3	51.8	54.7	56.4
RFKE18E-12.0-007	40.7	55	66.3	74.4	80.9	86.1	90.2	93.7
Evaporating temperature: -10°C								
RFKE18E-1.0-001	/	2.7	3	3.3	3.6	4	4.2	4.4
RFKE18E-2.0-002	/	5.2	6	6.8	7.5	8	8.3	8.7
RFKE18E-3.0-003	/	7.8	9.1	10.1	11.2	12	12.6	13
RFKE18E-5.0-004	/	12.9	15.1	17.1	18.7	20	20.8	21.5
RFKE18E-8.0-005	/	20.9	24.4	27.9	30.2	31.7	33.1	34.3
RFKE18E-12.0-006	/	31.4	36.6	41.9	45	47.7	50	52.3
RFKE18E-12.0-007	/	51.8	60.5	68.6	75.1	79.1	83.3	85.6
Evaporating temperature: -20°C								
RFKE18E-1.0-001	/	2.2	2.6	2.9	3.1	3.3	3.5	3.7
RFKE18E-2.0-002	/	4.3	4.9	5.6	6.2	6.6	6.9	7.1
RFKE18E-3.0-003	/	6.5	7.4	8.5	9.4	10	10.4	10.6
RFKE18E-5.0-004	/	11	12.9	14.4	15.6	16.5	17.2	17.7
RFKE18E-8.0-005	/	17.4	20.4	22.7	25	26.2	27.3	27.9
RFKE18E-12.0-006	/	25.6	30.8	34.9	37.2	39.5	41.9	43
RFKE18E-12.0-007	/	44.2	51.2	57.6	61.6	65.7	68.6	72.1
Evaporating temperature: -30°C								
RFKE18E-1.0-001	/	/	2	2.2	2.4	2.6	2.8	2.9
RFKE18E-2.0-002	/	/	4.1	4.5	4.9	5.2	5.5	5.6
RFKE18E-3.0-003	/	/	6.2	6.9	7.4	7.9	8.3	8.5
RFKE18E-5.0-004	/	/	10.1	11.3	12.3	13.1	13.7	14.3
RFKE18E-8.0-005	/	/	16.3	18	19.8	20.9	22.1	22.7
RFKE18E-12.0-006	/	/	25	27.9	30.2	31.4	32.6	33.7
RFKE18E-12.0-007	/	/	40.7	45.4	49.4	52.3	54.7	57
Evaporating temperature: -40°C								
RFKE18E-1.0-001	/	/	1.3	1.7	1.9	2	2.2	2.3
RFKE18E-2.0-002	/	/	3.1	3.5	3.8	4	4.2	4.4
RFKE18E-3.0-003	/	/	4.8	5.2	5.7	6	6.4	6.6
RFKE18E-5.0-004	/	/	8	8.7	9.4	10.1	10.6	11
RFKE18E-8.0-005	/	/	12.8	14	15.1	16.3	16.9	17.4
RFKE18E-12.0-006	/	/	19.2	20.9	22.7	24.4	26.2	27.3
RFKE18E-12.0-007	/	/	32	35.5	38.4	40.7	43	44.8
Evaporating temperature: -50°C								
RFKE18E-1.0-001	/	/	1.2	1.3	1.4	1.5	1.6	1.7
RFKE18E-2.0-002	/	/	2.4	2.7	2.8	3	3.1	3.3
RFKE18E-3.0-003	/	/	3.7	4.1	4.3	4.5	4.8	5
RFKE18E-5.0-004	/	/	6	6.6	7.1	7.6	7.9	8.3
RFKE18E-8.0-005	/	/	9.3	10.5	11	11.6	12.2	12.8
RFKE18E-12.0-006	/	/	14.5	15.7	16.9	18	19.2	20.4
RFKE18E-12.0-007	/	/	24.4	26.2	27.9	29.7	31.4	32.6

Table1: R717 (-20°C~+30°C)

Model	Cooling capacity [KW]							
	Pressure drop ΔP [bar]							
	2	4	6	8	10	12	14	16
Evaporating temperature: +30°C								
RFKE18E-1.0-011	2.6	3.4	3.9	4.3	4.6	4.8	5	5.2
RFKE18E-2.0-012	4.7	6.5	7.5	8.1	8.7	9.2	9.6	9.9
RFKE18E-3.0-013	5.6	7.8	9.3	10.4	11.4	12.2	12.9	13.5
RFKE18E-5.0-014	11.6	16	19	20.9	22.2	23.4	24.5	25.4
RFKE18E-8.0-015	19.9	27.3	31.3	34.4	36.6	38.6	40.3	41.8
RFKE18E-12.0-016	29.1	39.6	45.3	49.2	52.2	55.2	57.7	59.8
RFKE18E-12.0-017	42.9	66.2	74.6	81.1	86.4	90.9	94.8	98.3
Evaporating temperature: +20°C								
RFKE18E-1.0-011	2.7	3.4	3.9	4.2	4.5	4.8	4.9	5.1
RFKE18E-2.0-012	4.9	6.6	7.5	8.1	8.7	9.1	9.5	9.9
RFKE18E-3.0-013	5.9	8	9.6	10.8	11.7	12.5	13.2	13.9
RFKE18E-5.0-014	12.1	16.5	19.3	20.9	22.2	23.4	24.4	25.4
RFKE18E-8.0-015	20.7	28.1	31.5	34.2	36.5	38.4	40.1	41.6
RFKE18E-12.0-016	30.2	40.2	45	48.8	52	54.8	57.2	59.3
RFKE18E-12.0-017	50.7	65.9	73.8	80	85.2	89.7	93.7	97.2
Evaporating temperature: +10°C								
RFKE18E-1.0-011	2.6	3.3	3.8	4.2	4.4	4.7	4.9	5
RFKE18E-2.0-012	5.1	6.6	7.4	8	8.6	9	9.5	9.9
RFKE18E-3.0-013	6.1	8.3	9.8	11	12	12.8	13.5	14.1
RFKE18E-5.0-014	12.5	17	19.1	20.7	22	23.2	24.3	25.2
RFKE18E-8.0-015	21.3	27.8	31.1	33.7	36	37.9	39.6	41.2
RFKE18E-12.0-016	30.9	39.5	44.2	47.9	51.1	53.9	56.3	58.5
RFKE18E-12.0-017	51.6	64.5	72.1	78.2	83.4	88	92	95.6
Evaporating temperature: 0°C								
RFKE18E-1.0-011	2.6	3.2	3.7	4.1	4.3	4.6	4.8	5
RFKE18E-2.0-012	5.2	6.4	7.2	7.9	8.4	8.9	9.4	9.6
RFKE18E-3.0-013	6.3	8.5	10	11.2	12.1	12.9	13.6	14.2
RFKE18E-5.0-014	12.9	16.8	18.7	20.3	21.7	22.9	23.9	24.9
RFKE18E-8.0-015	21.8	27.1	30.3	33	35.2	37.2	39	40.5
RFKE18E-12.0-016	31.4	38.4	42.9	46.7	49.9	52.7	55.2	57.4
RFKE18E-12.0-017	51.7	62.3	69.8	76	81.3	85.9	90	93.7
Evaporating temperature: -10°C								
RFKE18E-1.0-011	/	3.1	3.6	3.9	4.2	4.4	4.6	4.8
RFKE18E-2.0-012	/	6.1	6.9	7.5	8.1	8.6	9	9.4
RFKE18E-3.0-013	/	8.5	10	11.2	12.1	12.9	13.5	14.1
RFKE18E-5.0-014	/	15.6	17.5	19.1	20.4	21.6	22.7	23.6
RFKE18E-8.0-015	/	24.7	27.8	30.4	32.6	34.6	36.3	37.8
RFKE18E-12.0-016	/	36.9	41.5	45.3	48.6	51.5	54	56.3
RFKE18E-12.0-017	/	59.7	67.3	73.6	79	83.7	87.9	91.7
Evaporating temperature: -20°C								
RFKE18E-1.0-011	/	2.9	3.2	3.5	3.8	4	4.2	4.4
RFKE18E-2.0-012	/	5.4	6.2	6.8	7.3	7.8	8.2	8.6
RFKE18E-3.0-013	/	8.4	9.9	11	11.9	12.5	13	13.4
RFKE18E-5.0-014	/	13.6	15.4	17	18.3	19.4	20.4	21.3
RFKE18E-8.0-015	/	21	24	26.5	28.6	30.4	32	33.4
RFKE18E-12.0-016	/	32.2	36.7	40.4	43.5	46.3	48.7	50.9
RFKE18E-12.0-017	/	56.9	64.6	71	76.6	81.4	85.6	89.5

Note: Subcooling Δt = 4K ahead of the valve

YSF Series

Oil four-way valve (slide control valve)

Oil four-way valves are widely used for capacity adjustment of screw compressors. The position of the compressor slide valve is controlled by energizing and de-energizing the coils of each circuit, thus regulating the refrigeration capacity of the compressor.



FEATURES

- ◆ Functional integration, effective simplification of the circuit, small size, convenient control.
- ◆ Valve body is made of aluminum, good strength and light weight.
- ◆ Pipe + threaded connection, no welding required

GENERAL SPECIFICATIONS

- ◆ Applicable refrigerants: YSF1216L01: POE, PVE refrigeration oil and HCFC, HFC refrigerant;
YSF32L01: POE, PVE refrigeration oil and HCFC, HFC and ammonia.
- ◆ Maximum working pressure: YSF1216L01: 17bar
YSF32L01: 28bar
- ◆ Ambient temperature: -30°C/+55°C (-22°F/+131°F)
- ◆ Installation position: coil junction box lead down installation, no special requirements for the valve body.

TECHNICAL PARAMETERS

Model number	Voltage(V)	Frequency (Hz)	Power (W)	Protection class	Insulation resistance (MΩ)
YSF1216L01	AC24V	50	10.5	IP65	≥500
		60	8.5		
YSF32L01	AC220~240	50	12	IP65	≥500
		60	10		

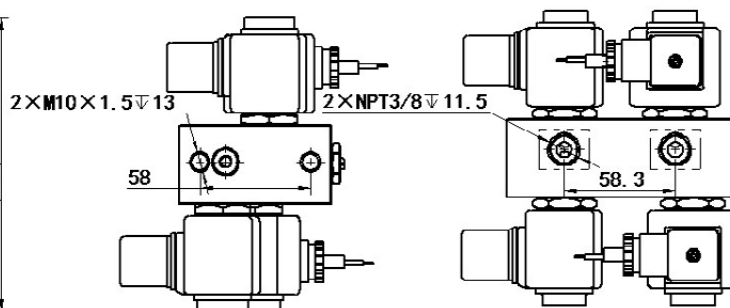
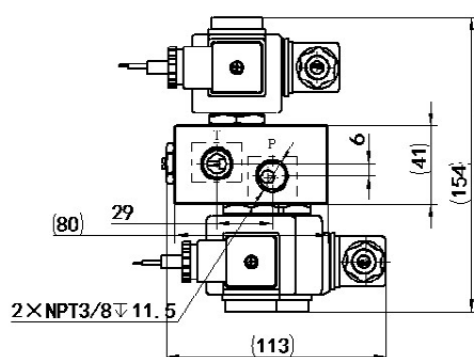
WORK RESTRICTIONS

Model number	Environmental temperature	Environmental humidness	Medium temperature range	Voltage fluctuation range
YSF1216L01	-30°C-55°C	≤95%RH	20°C-100°C	-15%~+10%
YSF32L01	-30°C-55°C	≤95%RH	0°C-100°C	-15%~+10%

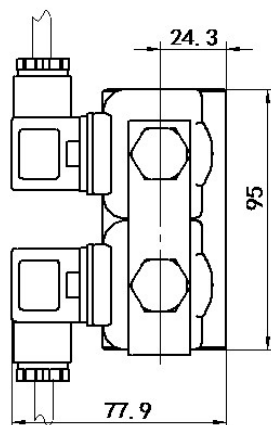
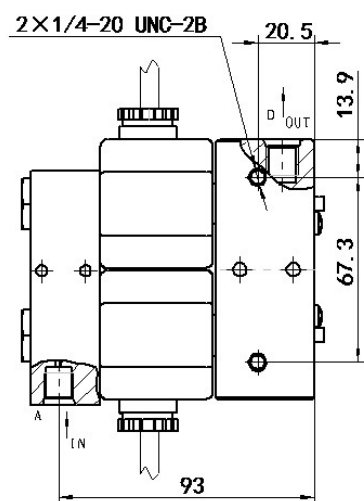
TECHNICAL PARAMETERS

Model	Max working pressure	CV	Internal leakage	Interface size
YSF1216L01	1.7MPa	0.04	≤10ml/min (0.7MPa Air)	4×7/16-20 UNF-2B
YSF32L01	2.8MPa	0.25	≤10ml/min (0.7MPa Air)	4×NPT3/8

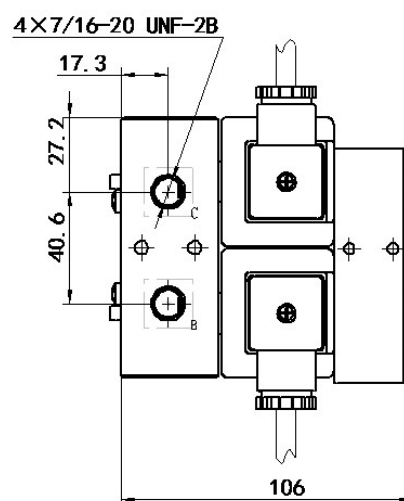
DIMENSIONS[mm]



YSF1216L01



YSF32L01



YCQC

Pressure Transmitter

With an operating excitation voltage input of DC10-30V, a 4-20mA signal output proportional to the medium pressure is provided without the need for end-user signal amplification. The pressure transmitter allows for control and ensures that the system operates under safe and stable operating conditions.



FEATURES

- ◆ Overall characteristics: the use of high-performance digital chip, good linearity, temperature drift is small, the working range widely, high precision.
- ◆ Compact, easy-to-install, Hirschmann and Parkard fitting styles available.
- ◆ Stability: Adoption of excellent chip, strict process control, good stability.
- ◆ Versatility: different pressure ranges with high precision grades.

GENERAL SPECIFICATIONS

- ◆ Applicable refrigerants: All commonly used HCFC, HFC and HFO refrigerants, such as: R22, R134a, R404A, R407C, R410A, R507, R1233zd, R123 4yf and R717(NH₃), R744(CO₂), etc.
- ◆ Installation position: Recommended for vertical installation with transmitter leads upwards.
- ◆ Certifications: UL, VDE, CE.

ELECTRICAL SPECIFICATIONS

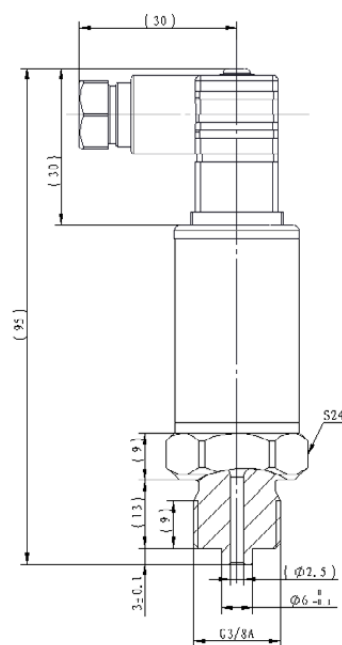
- ◆ Supply Voltage: 10V~30VDC.
- ◆ Rated output signal: 4~20mA.
- ◆ Current limit (up to 1.5 times rated range for linear output signals): 28 mA.
- ◆ Electrical strength: Max. 0.75 mA, AC 1.8KV(1S).
- ◆ Insulation resistance: Min. 100 MΩ.
- ◆ Protection class: IP66.

WORK RESTRICTIONS					
Model	Environmental temperature	Relative humidity	Medium temperature rangemin/max	Comprehensive accuracy and applicable temperature range	Pressure resistance [MPa]
YCQC09L02	-20°C / +80°C	0 ~ 95%	-30°C / +120°C	±2% FS (0°C / +50°C) ±2.5% FS (-20°C / +80°C) ±3% FS (-30°C / +120°C)	13.5
YCQC15L02	-20°C / +80°C			±1% FS (0°C / +50°C) ±2% FS (0°C / +80°C) ±2.5% FS (-20°C / +100°C) ±3% FS (-30°C / +120°C)	22.5
YCQC02L04	-40°C / +80°C			±0.8% FS (-30°C / +80°C) ±3% FS (-30°C / +120°C)	5.25
YCQC03L04	-40°C / +80°C			±0.8% FS (-30°C / +80°C) ±3% FS (-30°C / +120°C)	7.5

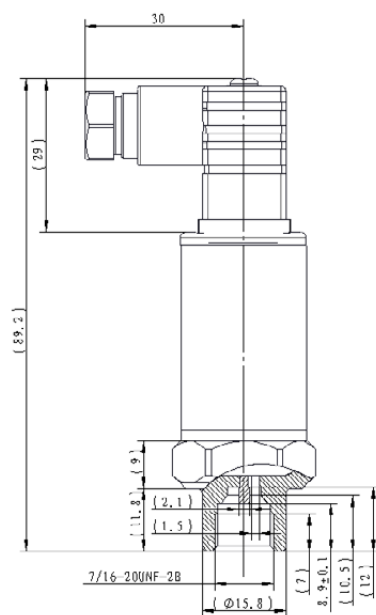
TECHNICAL PARAMETERS

Model	Interface Specifications			Electrical interface form	Pressure range (0 to pr) [Mpa]	Output
	Type	Tube Size	Thread Size			
YCQC02L04	Thread	-	G3/8A	Hirschmann	-0.1 ~ 1.2	4 ~ 20 mA
YCQC03L04	Thread	SAE-1/4"	7/16-20UNF	Hirschmann	0 ~ 3	4 ~ 20 mA
YCQC15L02	Thread	-	G1/4	Packard	0 ~ 15	4 ~ 20 mA
YCQC09L02	Thread	SAE-1/4"	7/16-20UNF	Packard	0 ~ 9	4 ~ 20 mA

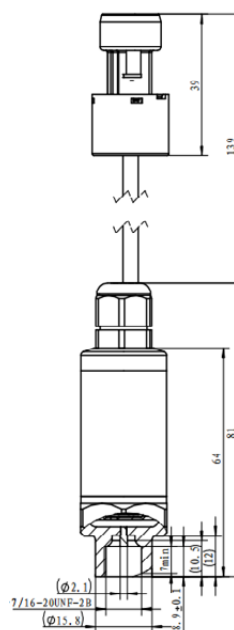
DIMENSIONS [mm]



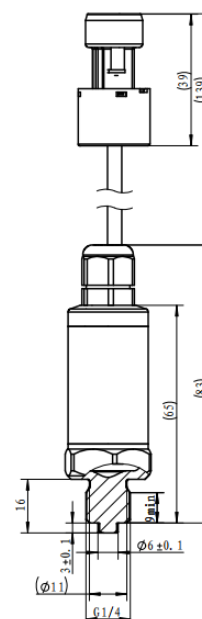
YCQC09L02
(HirschmannConnector)



YCQC03L04
(HirschmannConnector)



YCQC09L02
(PackardConnector)



YCQC15L02
(PackardConnector)

YKF

Multi-function pressure control valves (back pressure valves)

Multi-function pressure control valve, also known as back pressure valve, refrigeration system, commonly used after the compressor oil separator, in the compressor opening stage to maintain the oil separator pressure, at the same time there is a check function, to ensure that the liquid refrigerant does not flow back to the oil separator, to ensure that the compressor is smooth return to the oil.



FEATURES

- ◆ Adopting special material sealing, high product life, can realize 100,000 times start-stop, good reliability.
- ◆ Low pressure loss and high differential pressure.

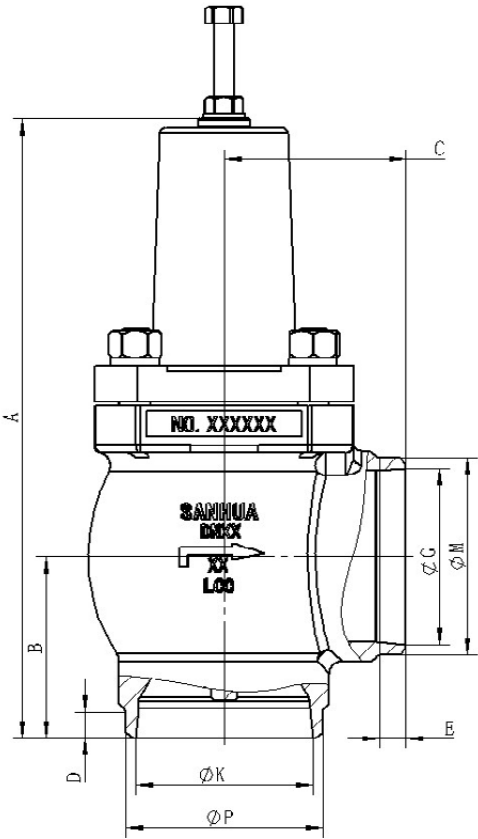
GENERAL SPECIFICATIONS

- ◆ Applicable refrigerant: R717, R134a, R404A, R507, R22 (need to replace the rubber material), refrigeration oil 3GS, 4GS.
- ◆ Ambient temperature: -30°C/+120°C (-22°F/+248°F).
- ◆ Product design pressure: 40 bar.
- ◆ Open valve differential pressure: 2 bar, 3 bar.
- ◆ Receiver standard: GB/T 9115 Series I (American Standard), Series II (National Standard)
- ◆ Installation position: butt-welding, valve inlet/outlet and refrigeration system orifice welding.

TECHNICAL PARAMETERS

Model	Open pressure (MPa)	Cv ≥	Internal leakage (Air) <(ml/min)	Intrinsic Frequency (HZ)	Design Pressure (MPa)	Applicable temperature (°C)	Life time
YKF40H01	0.3 (+0.05/-0.03)	40	600	251	4	-30°C ~ +120°C	10
YKF50H01		50					
YKF65H01		90		227			
YKF80H01		140	1300	218			
YKF100H01		240		214			
YKF125H01	0.2 (+0.05/-0.02)	350	3300	142			
YKF150H01		500		130			

DIMENSIONS



Model	Height [mm]	Interface distance [mm]		Interface length [mm]		Slope caliber [mm]		Connection outer diameter [mm]	
	A	B	C	D	E	K	G	P	M
YKF40H02	222	68	68	7	7	39	39	45	45
YKF50H02	222	68	68	8	8	51	51	57	57
YKF65H02	239	70	70	10	10	68	68	76	76
YKF80H02	301	90	90	12	12	81	81	89	89
YKF100H02	356	106	106	12	12	98	98	108	108
YKF125H02	427	128	128	12	12	124	124	133	133
YKF150H02	494	145	145	12	12	149	149	159	159

innovating
TOGETHER



三花微信公众平台



三花商用官网