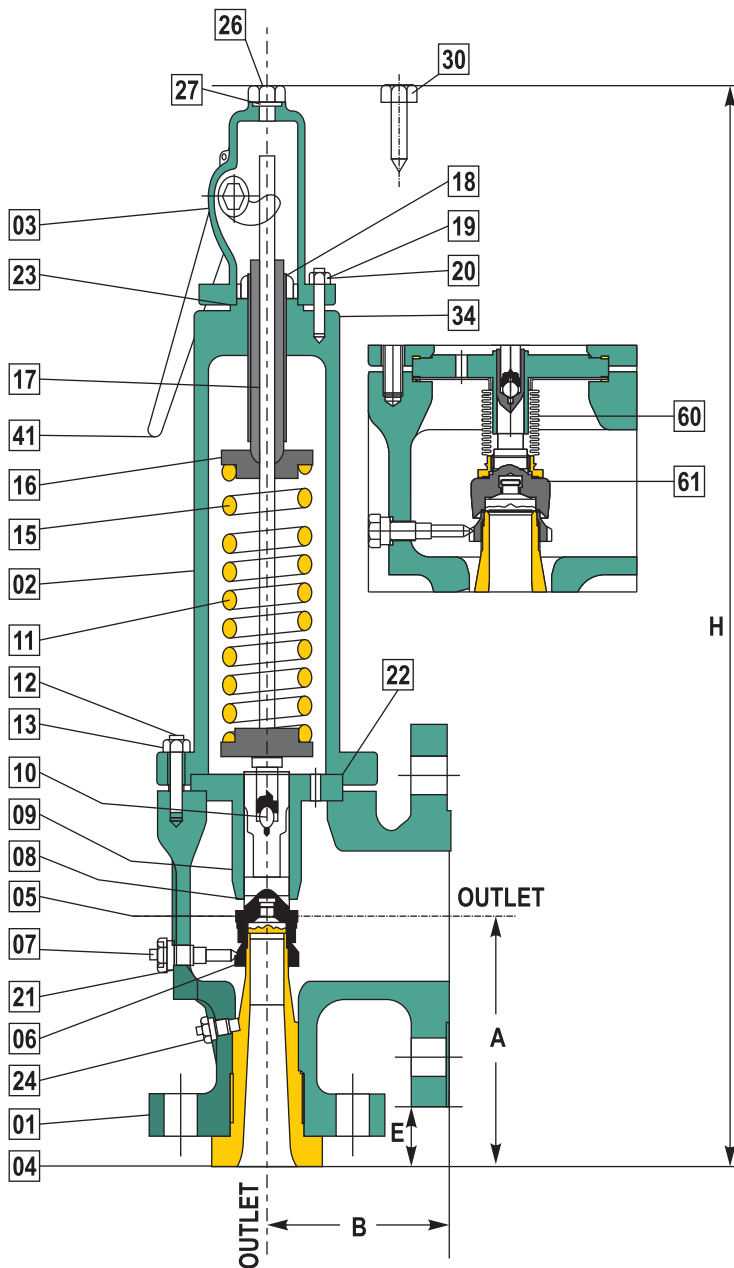


Pressure Relief Valve

SERIES : AK -33



 Recommended Spare Parts

HIGH LIFT & HIGH CAPACITY, FULL NOZZLE CONSTRUCTION, DIRECT SPRING LOADED, METAL TO METAL SEAT, SIZE 1" TO 8" ('D' TO 'T' ORIFICE IN ACCORDANCE WITH API-526) FLANGED END ANSI 150# TO 2500# (TEMP.-196°C TO +530°C SAFETY/PRESSURE RELIEF VALVE. SET PRESSURE RANGE 1 BAR TO 414 BAR

DESIGN FEATURE

- Face to face dimension according to API 526
- Adjusting and reaction rings
- Screwed full nozzle
- Flanges according to ANSI B 16.5
- Sizing & selection of safety relief valve in accordance with API 520, Part-I (Using API-520 coefficient & API-526 effective discharge area)

CONSTRUCTION

Body Materials

- Carbon steel code 3336
- Stainless steel code 3356
- Cr Mo steel code 3366
- Low temperature steel code 3376
- Special materials included compliance to standard NACE MR0175

ACCESSORIES / OPTIONS

- Packed lifting lever with closed bonnet (F)
- Packed lifting lever with open bonnet (O)
- Bellows (P)
- Nozzle and disc stellite (S)
- Gag (V)

PRESSURE RELIEF VALVES FLANGED TYPE

SERIES : AK -33

PART LIST

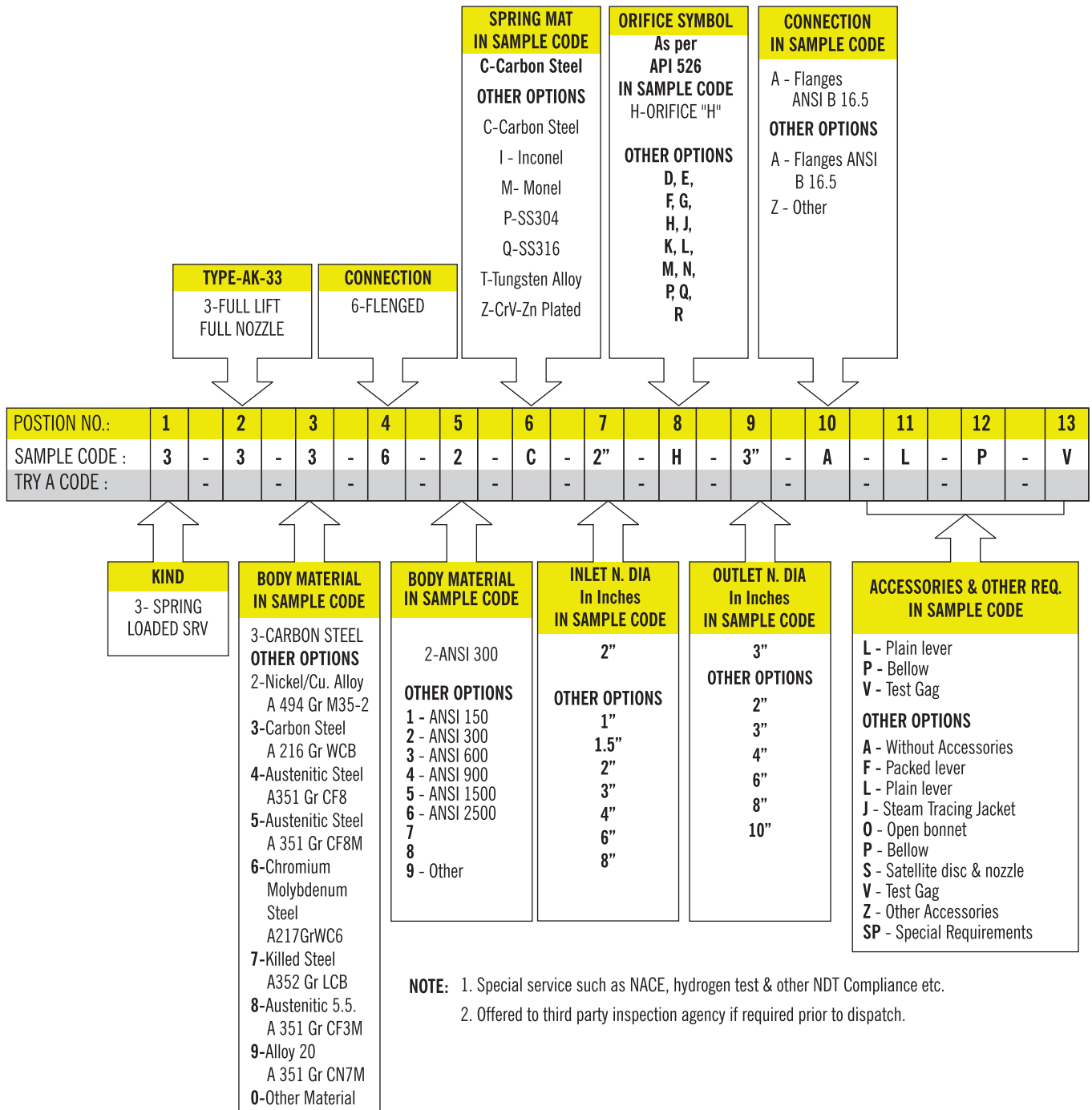
PART LIST		AK-3336 CARBON STEEL	AK-3356 STAINLESS STEEL CORROSIVE SERVICE	AK-3366 CR MO STEEL	AK-3376 LOW TEMPERATURE
PART NO	DESCRIPTION	TEMP-29°C TO 427°C	TEMP-196°C TO 530°C	TEMP-29°C TO 538°C	TEMP-30°C TO 345°C
01	Body	A 216 GR WCB	A 351 GR CF8M	A 217 GR WC6	A 352 GR LCB
02	Bonnet	A 216 GR WCB	A 351 GR CF8M	A 217 GR WC6	A 352 GR LCB
03	Cap	A 216 GR WCB	A 351 GR CF8M	A 217 GR WC6	A 352 GR LCB
04 (R)	Nozzle	SS-316 / CF8M	SS-316/CF8M	SS-316/CF8M	SS-316/CF8M
05 (R)	Disc	SS-316	SS-316	SS-316	SS-316
06	Adj. Ring	A 351 GR CF8M	A 351 GR CF8M	A 351 GR CF8M	A 351 GR CF8M
07	Adj. Ring Pin	SS - 304	SS-304	SS-304	SS-304
08	Disc Holder / Piston	SS -304/351 GR CF8	SS-304/351 GR CF8	SS-304/351 GR CF8	SS-304/351 GR CF8
09	Guide	SS-316/A 351 GR CF8M	SS-316/A 351 GR CF8M	SS-316/A 351 GR CF8M	SS-316/A 351 GR CF8M
10	Ball	SS-304	SS-304	SS-304	SS-304
11	Spindle	SS-304	SS-304	SS-304	SS-304
12	Body-Bonnet Bolting Stud	A 193 GR B7	A 193 GR B8	A 193 GR B7	A 193 GR B7
13	Body-Bonnet Bolting Nut	A 194 GR 2H	A 194 GR 8H	A 194 GR 2H	A 197 GR 2H
15 (R)	Spring	ACCORDING TO MEDIUM AND TEMPERATURE			
16	Spring Washer	C.S.	SS-304	SS-304	C.S.
17	Adj. Screw	SS-304	SS-304	SS-304	SS-304
18	Lock Nut	SS-304	SS-304	SS-304	SS-304
19/20	Cap- Bonnet Fastener	CARBON STEEL	SS-304	CARBON STEEL	CARBON STEEL
21	Set Screw Gasket	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER
22	Guide Gasket	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER
23 (R)	Cap Gasket	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER
24	Drain Plug	SS-304	SS-304	SS-304	SS-304
26	Cap Plug	C.S.	SS-304	C.S.	C.S.
27 (R)	Plug Gasket	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER
30	Test Gag	C.S.	SS-304	C.S.	C.S.
41	Lever Assembly	A 479 410	A 479 304	A 479 410	A 479 410
60 (R)	Bellow	SS-316 L	SS-316 L	SS-316 L	SS-316 L
61 (R)	Bellow Gasket	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER	GRAPHOIL WITH SS FILLER

(R) : Recommended Spares	Other materials on Request	Recommended Spring Materials	
<p>COLD DIFFERENTIAL TEST PRESSURE (CDTP.)</p> <ul style="list-style-type: none"> Actual service conditions are different from the test conditions, to compensate this effect CDTP is specified for adjusting set pressure at test bench. The CDTP for conventional valve with superimposed constant back pressure, CDTP = (Set pressure-Back pressure) (1+Temp Correction factor) The temperature correction factor at reliving temp are (+67 to +120=1%) (+121 to 200 = +2%) (+201 to 351=3%) (+316 to 430' = +4%) (+431' to 450' = +5%) The spring design is suitable to modify the set pressure within $\pm 10\%$ of the original set pressure. For other modifications, consult to work. 		Material	Temp Range (OC)

PRESSURE RELIEF VALVES FLANGED TYPE

SERIES: AK-33

CODIFICATION NUMBERING SYSTEM



PRESSURE RELIEF VALVES FLANGED TYPE

SERIES: AK-33

SIZES

ORIFICE		FLANGES ANSI RF *			MAX SET PRESSURE AT 38°C (BAR-g)	DIMENSIONS				APPROX WEIGHT (KG)
API - 526		ND in. Inlet x Outlet	CLASS ANSI			±3	±3	±3	±10	
DESIGN- ATION	EFFECTIVE AREA (cm ²) Sq In		INLET	OUTLET		A mm	B mm	E mm	H mm	
D	(0.71) 0.11	1" x 2"	150	150	19.6	105	114	32.5	420	18
			300	150	19.6	105	114	32.5	420	18
			300	150	51	105	114	32.5	420	18
			600	150	102	105	114	32.5	420	18
		1.5 x 2"	900	300	153	105	140	40.5	512	30
			1500	300	255	105	140	40.5	512	30
1.5 x 3"	2500	300	414	140	178	60	640	42		
E	(1.26) 0.196	1" x 2"	150	150	19.6	105	114	32.5	420	18
			300	150	19.6	105	114	32.5	420	18
			300	150	51	105	114	32.5	420	18
			600	150	102	105	114	32.5	420	18
		1.5" x 2"	900	300	153	105	140	40.5	512	30
			1500	300	255	105	140	40.5	512	30
1.5" x 3"	2500	300	414	140	178	60	640	42		
F	(1.98) 0.307	1.5" x 2"	150	150	19.6	124	121	34	530	30
			300	150	19.6	124	121	34	530	30
			300	150	51	124	152	38	530	36
			600	150	102	124	152	38	530	36
		1.5" x 3"	900	300	153	124	165	47	554	48
			1500	300	255	124	165	47	554	48
2500	300	345	140	178	60	640	60			
G	(3.24) 0.503	1.5" x 3"	150	150	19.6	124	121	34	540	30
			300	150	19.6	124	121	34	540	30
			300	150	51	124	152	38	540	36
			600	150	102	124	152	38	540	36
		2" x 3"	900	300	153	124	165	47	650	42
			1500	300	255	156	171	64	740	78
2500	300	255	156	171	64	740	84			
H	(5.06) 0.785	1.5" x 3"	150	150	19.6	130	124	36	540	35
			300	150	19.6	130	124	36	540	35
		2" x 3"	300	150	51	130	124	36	540	35
			600	150	102	155	162	42	700	48
			900	150	153	155	162	63	730	78
1500	300	190	155	162	63	730	82			
J	(8.3) 1.287	2" x 3"	150	150	19.6	137	124	36	559	35
			300	150	19.6	137	124	36	559	35
		3" x 4"	300	150	51	184	143	47	725	58
			600	150	102	184	181	49	750	98
			900	150	153	184	181	53	970	132
1500	300	186	184	181	67	771	145			

PRESSURE RELIEF VALVES FLANGED TYPE

SERIES : AK-33

SIZES

ORIFICE		FLANGES ANSI RF*			MAX SET PRESSURE IN BAR AT 38°C	DIMENSIONS				APPROX WEIGHT (KG)
API - 526		ND in Inlet x Outlet	CLASS ANSI			±3 A mm	±3 B mm	±3 E mm	±3 H mm	
DESIGNATION	EFFECTIVE AREA (cm ²) Sq In		INLET	OUTLET						
K	(11.86) 1.838	3" x 4"	150	150	19.6	156	162	43.5	700	78
			300	150	19.6	156	162	43.5	700	78
			300	150	51	156	162	43.5	700	78
		3" x 6"	600	150	102	184	181	53	970	130
			900	150	153	198	216	54	1160	156
			1500	300	153	198	216	67	1160	210
L	(18.41) 2.853	3" x 4"	150	150	19.6	156	165	43.5	700	78
			300	150	19.6	156	165	43.5	700	78
		4" x 6"	300	150	51	179	181	44	990	130
			600	150	69	179	203	52.5	1000	180
			900	150	103	197	222	61	1160	210
			1500	150	103	197	222	71	1160	222
M	(23.2) 3.6	4" x 6"	150	150	19.6	178	184	44	990	108
			300	150	19.6	178	184	44	990	130
			300	150	51	178	184	44	990	130
			600	150	76	178	203	52.5	1000	180
			900	150	76	197	222	61	1160	210
N	(28) 4.34	4" x 6"	150	150	19.6	197	210	46	1010	90
			300	150	19.6	197	210	46	1010	130
			300	150	51	197	210	46	1010	130
			600	150	69	197	222	61	1010	205
			900	150	69	197	222	61	1010	210
P	(41.2) 6.38	4" x 6"	150	150	19.6	181	229	46	1000	136
			300	150	19.6	181	229	46	1000	132
			300	150	36	225	254	46.5	1060	180
			600	150	69	225	254	60	1200	264
			900	150	69	225	254	60	1200	270
Q	(71.2) 11.05	6" x 8"	150	150	11.5	240	241	43.5	1100	192
			300	150	11.5	240	241	54	1120	264
			300	150	21	240	241	54	1120	264
			600	150	42	240	241	67.5	1133	288
R	(103) 16	6" x 8"	150	150	7	240	241	43.5	1100	198
			300	150	7	240	241	54	1120	270
		6" x 10"	300	150	16	240	267	54	1205	282
			600	150	21	240	267	63	1205	306
T	(168) 26.00	8" x 10"	150	150	4.5	276	279	47	1346	408
			300	150	8	276	279	60	1400	436
			300	150	21	276	279	60	1400	426

1. Effective co-efficient of discharge as per API 520, for Gas/Vapour/Steam: "kd"=0.97 & Liquid: "kd" =0.62
2. The hydro test is conducted for "Nozzles" at 1.5 times of inlet rating and for "Bodies" at 1.5 times of outlet back pressure limit of valves as per API 526 or as specified
3. Seat leakage test is conducted as per API 527 or as specified

Remark:

*On request it is possible to supply different type of flanges. For ANSI flanges refer to limits indicated in ANSI B-16.5 standard.