

Anderson Greenwood™ Type 4142HV Vacuum Relief Valve

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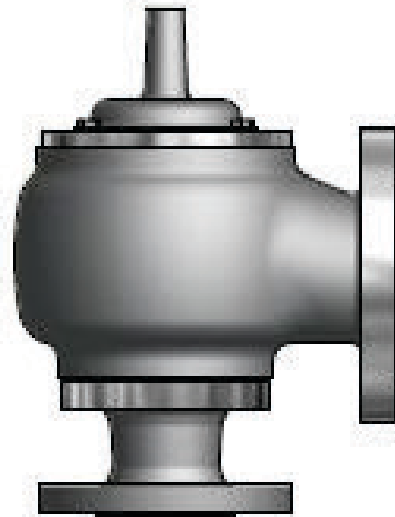


Figure 1. Type 4142HV Vacuum Relief Valve

The relief valve must be isolated from tank pressure before servicing. All gas/vapour must be blocked and pressure safety vented. Wear appropriate protective clothing and breathing apparatus if hazardous gas/vapours are present. Use appropriate lifting equipment where required.



WARNING

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death.

Anderson Greenwood Vacuum Relief Valve must be installed, operated and maintained in accordance with federal, state and local codes, rules and regulations and Emerson Pressure Management.

Introduction

Scope of the Manual

This manual provides instructions for installation, operation, maintenance and parts ordering of the Type 4142HV Vacuum Relief Valve (VRV).

Outside North America Only

Type 4142HV

Specifications

This section lists the specifications for the Type 4142HV Vacuum Relief Valve. Factory specification is stamped on the nameplate fastened on the Type 4142HV Vacuum Relief Valve at the factory.

Valve Sizes

2, 3, 4, 6, 8, 10 and 12 in. / DN 50, 80, 100, 150, 200, 250 and 300

Pallet Designs

VLP: For very low pressure
LP: For low pressures
HP: For high pressure

Pallet Vacuum Ranges⁽¹⁾

See Table 3

Equivalent Weights for Vacuum Settings

See Table 4

1. The pressure/temperature limits in this Instruction Manual and any applicable standard or code limitation should not be exceeded.

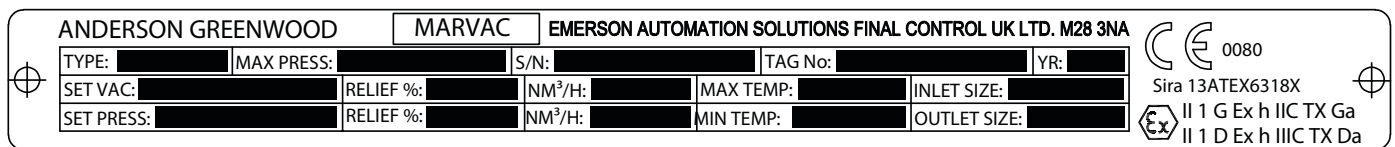


Figure 2. Type 4142HV ATEX Nameplate

Product Description

CAUTION

Care must be taken to identify correctly the flange connection for mounting the valve on the tank. If the valve is mounted incorrectly it will not provide any vacuum protection.

The Anderson Greenwood™ Type 4142HV VRV is employed in gas/vapour service applications for low pressure storage tanks, vessels or applications requiring vacuum protection with high capacity flow requirements. This product helps to prevent damage to the tank and also prevents the tank's contents from escaping, ensuring the safety of personnel and the surrounding environment.

Vacuum valves are designed to limit the maximum vacuum that can exist in a tank due to outflow of the tank contents or due to changes in temperature as a result of environmental conditions.

The Anderson Greenwood Type 4142HV VRV consists of a flanged tank connection with a vacuum seat. The vacuum inlet is also supplied with a flanged connection to enable an alternative pressure source to be used to fill the tank for applications where the contents cannot come into contact with normal air.

- For ease of maintenance the vacuum seat is removable.
- PTFE coated internals are supplied as an all-weather option.

Principle of Operation

The Anderson Greenwood Type 4142HV VRV is a direct acting vent valve based on the weight of the pallet to keep the valve closed. When tank vacuum acting on the seat sealing area equals the opposing force acting on the pallet, the valve is on the threshold of opening. Any further increase in vacuum will cause the vacuum pallet to begin to lift thus breaking the vacuum by allowing atmospheric air to be drawn into the tank (inbreathing).

In order for the valve to open and achieve its design lift, an increase in vacuum will be required. The Type 4142HV VRV has been designed to achieve this design lift and rated capacity within 10% increase in vacuum. Since the weight on the pallet determines the vacuum setting of the valve, the settings are changed by varying the weight on the pallet.

Vacuum Setting Verification

CAUTION

Whenever the cover is removed and re-fitted, ensure correct engagement of the pallet stem in the cover guide.

If the vacuum setting is to be verified prior to installation, it is recommended that a test rig with a suitable accumulator be used having the following general features:

- Observed vacuum shall be measured in the accumulator tank.
- The flange on which the valve is mounted shall be level.

Remove valve from shipping container and remove all packaging. Check that the vacuum setting, the rated capacity and other details on the nameplate are correct.

Test for Vacuum Setting

For verification of the vacuum setting, the flow rate out of the accumulator should be limited such that when the vacuum setting is reached, the point at which atmospheric pressure is admitted to the accumulator can be observed.

1. Ensure that the test rig is clean and fasten the valve securely to the test flange.
2. Check nameplate for required vacuum setting.
3. Increase the inlet vacuum slowly until the pallet assembly can be seen to be gently lifting and reseating on the seat. The inlet vacuum at this point is the adjusted setting and should coincide with the point at which no further increase in inlet vacuum is observed. Repeat a further two times to ensure repeatability.

Vacuum Setting Adjustment (see Figure 5)

The valve has been factory set to the required setting, however if it is necessary to make vacuum setting adjustment this can be done as follows:

1. Remove hex set screws (key 7) and washers (key 5) then remove cover (key 2) and O-ring (key 8).
2. The vacuum setting can be increased or reduced by adding or removing lead weights which can be supplied in various settings.
3. Refit cover (key 2) ensuring O-ring (key 8) is correctly installed and secure using hex set screws (key 7) and washers (key 5).
4. Repeat set vacuum verification and repeat adjustment if required.

If it is not possible to verify the set vacuum on a test rig, the required setting can be verified by measuring the combined weight of the pallet and installed weights. Refer to Table 4 for combined weight and equivalent set vacuums.

Installation



WARNING

Personal injury, property damage, equipment damage or leakage due to escaping steam or bursting of pressure containing parts may result

if this equipment is over pressured or is installed where service conditions could exceed the limits given in the specifications or where conditions exceed any ratings of the adjacent piping or piping connections.

To avoid such injury or damage, provide pressure-relieving or pressure-limiting device.

The mating connection to the tank should be flat machined vertical flange (the Type 4142HV is designed for side mounting on tank outer wall) and should be thoroughly cleaned to remove all foreign matter which could lead to valve leakage if trapped between the valve seat and the pallet. The bore diameter of the tank connection nozzle should be at least equal to the bore of the valve connection. For correct valve operation there shall be no external loads applied to the valve body.

A gasket should be fitted to the mating flange ensuring it does not obstruct the flow path and install the valve. Ensure that the main axis of the valve is perpendicular. Flange bolting should be tightened uniformly to ensure a good seal.

For valves of aluminium construction, appropriate flat face flanges should be used and a full face gasket fitted.

Any supply pipework connected to the valve inlet should be adequately supported to prevent any loads being applied to the valve body.

Note

Storage tank connection configurations should conform to recognised standards. Different configurations should be taken into consideration when sizing the valve for the application.

It is recommended that the external surfaces of carbon steel valves are painted immediately after installation.

Valve Refurbishment

With valve in component parts thoroughly clean all surfaces with a suitable solvent and check for wear, corrosion or other forms of damage. Particular attention should be given to the sealing face of the valve seat.

Slight damage can be removed by lapping the seat face (removing vacuum posts); however, care should be taken not to increase the width of the seat face beyond those given in Table 1. If successive refurbishments or severe damage requires the seat to be re-machined, consult the factory for approved dimensions.

Type 4142HV

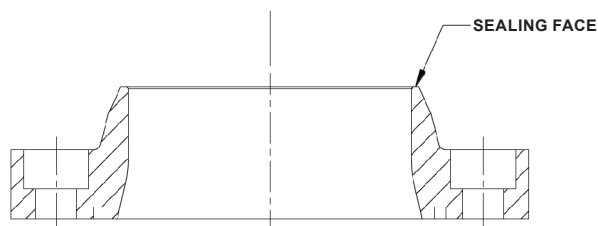


Figure 3. Sealing Face of Valve Seat

Table 1. Seat Lap Band Widths

VALVE SIZE, in. / DN	NOMINAL WIDTH, in. / mm	MAXIMUM WIDTH, in. / mm
2 / 50	0.039 / 1	0.059 / 1.5
3 / 80	0.039 / 1	0.059 / 1.5
4 / 100	0.047 / 1.2	0.071 / 1.8
6 / 150	0.059 / 1.5	0.071 / 1.8
8 / 200	0.059 / 1.5	0.087 / 2.2
10 / 250	0.079 / 2	0.12 / 3
12 / 300	0.079 / 2	0.12 / 3

Discard and replace any damaged parts plus all soft goods including:

- O-rings
- Diaphragms
- Backing Discs
- Spacer Discs
- Gasket

Also discard and replace the pallet disc. See Table 5 for replacement parts.

Testing Set Vacuum

The vacuum setting should be checked and if necessary adjusted as described.

Maintenance



WARNING

The relief valve must be isolated from tank pressure before servicing or removing. All gas/vapor must be blocked and pressure safely vented. Wear appropriate protective clothing and breathing apparatus if hazardous gas/vapors are present.

Regular inspection should be carried out to ensure that the vacuum port is free from debris and that nothing preventing the correct operation of the valve is present. Maintenance should be performed at regular intervals and should be carried out by suitably qualified personnel in an appropriately equipped

workshop. Alternatively, the valve should be returned to the manufacturer or suitably authorised agent for service/repair. During transport to the workshop the valve should be kept vertical to prevent damage to the internals.

Valve Disassembly (see Figure 5)

Before the valve is disassembled it should be thoroughly cleaned to remove potential hazards from process contamination.

1. Remove hex set screws (key 7), washers (key 5), cover (key 2) and O-ring (key 8). Remove shroud (key 3.4) and lift out vacuum pallet assembly (key 10) complete with vacuum setting weights (for higher set valves, remove some of the lead before lifting out the pallet assembly).
2. Remove seat (key 3.1) complete with vacuum posts (key 3.2) by removing cap-screws (key 4). This will separate the upper body (key 1) from the inlet flange (key 9). Remove gasket (key 6) and O-ring (key 3.3).

Pallet Disassembly (see Figure 6)

VLP/LP Pallet Disassembly for 2, 3, 4 in. / DN 50, 80, 100

1. Remove nut (key 4) and washer (key 5), where used to release stem (key 3) from assembly.
2. Separate pallet disc (key 2), diaphragm (key 6), pallet (key 1) and any weights taking care to identify weights removed to help re-assembly.

VLP/LP Pallet Disassembly for 6, 8, 10, 12 in. / DN 150, 200, 250, 300

1. Remove nut (key 4) and washer (key 5) to release stem (key 3) from assembly.
2. Separate pallet disc (key 2), diaphragm (key 6), backing disc (key 7), spacer disc (key 8), pallet (key 1) and any weights taking care to identify weights removed to help re-assembly.

HP Pallet Disassembly for 2, 3, 4, 6 in. / DN 50, 80, 100, 150

1. Remove nut (key 4) and washer (key 5) to release stem (key 3) from assembly.
2. Separate pallet disc (key 2), diaphragm (key 6), backing disc (key 7), spacer disc (key 8), disc (key 9), pallet (key 1) and any weights taking care to identify weights removed to help re-assembly.

HP Pallet Disassembly for 8, 10, 12 in. / DN 200, 250, 300

1. Remove nut (key 4) and washer (key 5) to release stem (key 3) from assembly.
2. Separate pallet disc (key 2), diaphragm (key 6), backing disc (key 7), spacer disc (key 8), disc (key 9), pallet (key 1), support plate (key 10) and any weights taking care to identify weights removed to help re-assembly.

Valve Re-assembly (see Figure 5)



CAUTION

Whenever the cover is removed and re-fitted, ensure correct engagement of the pallet stem.

1. Re-assemble vacuum posts (key 3.2) (if removed), and O-ring (key 3.3) to seat (key 3.1). Fit new gasket (key 6) between upper body (key 1) and inlet flange (key 9).
2. Secure seat (key 3.1) and upper body (key 1) to inlet flange (key 9) using cap screws (key 4) ensuring that O-ring is not dislodged during assembly. Re-install pallet ensuring the pallet slides easily between the vacuum posts. Return setting weights.
3. Assemble shroud (key 3.4) which should be installed over the vacuum posts (key 3.2) before the cover is assembled.
4. Assemble O-ring (key 8) to cover (key 2), assemble cover to upper body (key 1) ensuring that O-ring is not dislodged during assembly. Secure using washers (key 5), and hex set screws (key 7).

Pallet Re-assembly (see Figure 6)

VLP/LP Pallet Assembly for 2, 3, 4 in. / DN 50, 80, 100

Assemble pallet (key 1), diaphragm (key 6), and pallet disc (key 2), to stem (key 3) and secure using washer (key 5), where used, and nut (key 4).

VLP/LP Pallet Assembly for 6, 8, 10, 12 in. / DN 150, 200, 250, 300

Assemble pallet (key 1), spacer disc (key 8), backing disc (key 7), diaphragm (key 6), and pallet disc (key 2), to stem (key 3) and secure using washer (key 5) and nut (key 4).

HP Pallet Assembly for 2, 3, 4, 6 in. / DN 50, 80, 100, 150

Assemble pallet (key 1), disc (key 9), spacer disc (key 8), backing disc (key 7), diaphragm (key 6), and pallet disc (key 2), to stem (key 3) and secure using washer (key 5) and nut (key 4).

HP Pallet Assembly for 8, 10, 12 in. / DN 200, 250, 300

Assemble support plate (key 10), pallet (key 1), disc (key 9), spacer disc (key 8), backing disc (key 7), diaphragm (key 6), and pallet disc (key 2), to stem (key 3) and secure using washer (key 5) and nut (key 4).

If required, PTFE tape can be applied to stem threads and locking compound used to secure the nut.

Pallet Identification

Vacuum Ranges

There are three pallet designs with the following designations which each cover the respective vacuum ranges given in Table 3.

VLP - This is a plain spun pallet suitable for very low vacuums.

LP - This is similar to the VLP pallet apart from the material thickness and is suitable for slightly higher vacuums. See Table 2 for comparison of material thickness.

HP - This construction uses a substantial disc in combination with a spun pallet and is suitable for use up to the highest vacuums.

Note

2, 3 and 4 in. / DN 50, 80 and 100 VLP and LP designs contain a recess in the pallet to act as an air cushion to assist seat tightness.

8,10 and 12 in. / DN 200, 250 and 300 HP pallets also use a pallet support plate on the back face of the pallet.

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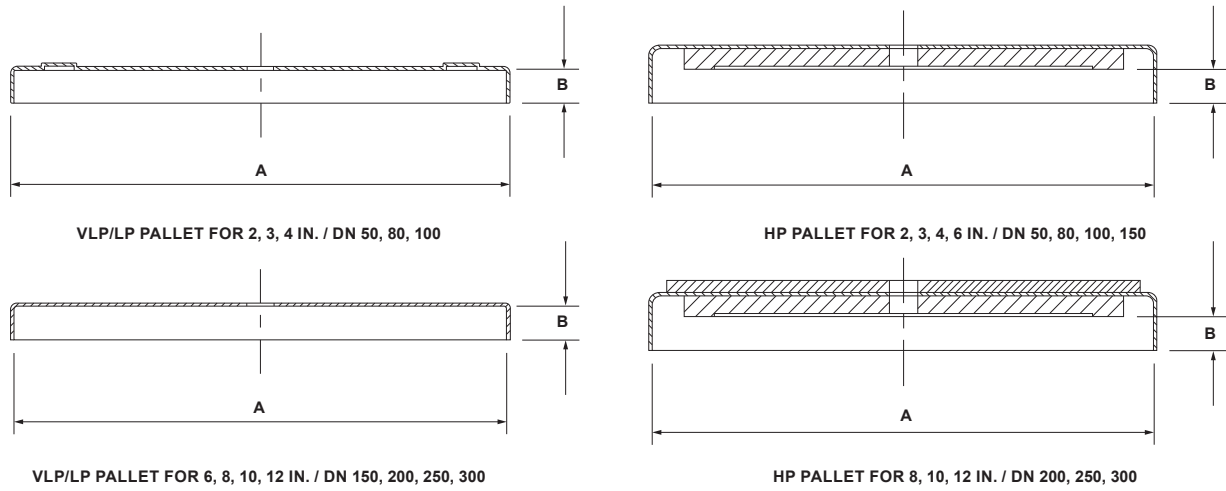


Figure 4. Pallet Designs with Pressure Ranges

Table 2. Pallet Thickness, in. / mm

PALLET	2 in. / DN 50	3 in. / DN 80	4 in. / DN 100	6 in. / DN 150	8 in. / DN 200	10 in. / DN 250	12 in. / DN 300
LP	0.039 / 1	0.039 / 1	0.039 / 1	0.059 / 1.5	0.059 / 1.5	0.059 / 1.5	0.059 / 1.5
VLP	0.024 / 0.6	0.024 / 0.6	0.024 / 0.6	0.024 / 0.6	0.024 / 0.6	0.024 / 0.6	0.024 / 0.6

Table 3. Pallet Vacuum Ranges, in. w.c. / mbar

NOMINAL SIZE, in. / DN	TRIM MATERIAL	VLP PALLET		LP PALLET		HP PALLET	
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
2 / 50	Aluminium	0.48 / 1.2	1.0 / 2.4	1.0 / 2.4	2.8 / 7.0	2.8 / 7.0	40 / 100
	316 SST	1.0 / 2.5	2.3 / 5.8	2.3 / 5.8	5.6 / 14	5.6 / 14	40 / 100
3 / 80	Aluminium	0.44 / 1.1	0.68 / 1.7	0.68 / 1.7	2.8 / 7.0	2.8 / 7.0	40 / 100
	316 SST	1.0 / 2.5	1.6 / 3.9	1.6 / 3.9	5.6 / 14	5.6 / 14	40 / 100
4 / 100	Aluminium	0.44 / 1.1	0.64 / 1.6	0.64 / 1.6	2.8 / 7.0	2.8 / 7.0	40 / 100
	316 SST	1.0 / 2.5	1.4 / 3.5	1.4 / 3.5	5.6 / 14	5.6 / 14	40 / 100
6 / 150	Aluminium	0.44 / 1.1	0.80 / 2	0.80 / 2	2.8 / 7.0	2.8 / 7.0	40 / 100
	316 SST	1.0 / 2.5	1.8 / 4.4	1.8 / 4.4	5.6 / 14	5.6 / 14	40 / 100
8 / 200	Aluminium	0.44 / 1.1	0.92 / 2.3	0.92 / 2.3	4.8 / 12	4.8 / 12	40 / 100
	316 SST	1.0 / 2.5	1.9 / 4.8	1.9 / 4.8	8.0 / 20	8.0 / 20	40 / 100
10 / 250	Aluminium	0.44 / 1.1	1.0 / 2.6	1.0 / 2.6	5.2 / 13	5.2 / 13	40 / 100
	316 SST	1.0 / 2.5	1.8 / 4.6	1.8 / 4.6	8.8 / 22	8.8 / 22	40 / 100
12 / 300	Aluminium	0.44 / 1.1	0.84 / 2.1	0.84 / 2.1	5.6 / 14	5.6 / 14	40 / 100
	316 SST	1.0 / 2.5	1.8 / 4.4	1.8 / 4.4	9.6 / 24	9.6 / 24	40 / 100

Table 4. Equivalent Weights for Vacuum Settings

INLET SIZE, in. / DN	2 / 50		3 / 80		4 / 100		6 / 150		8 / 200		10 / 250		12 / 300	
MEAN SEALING AREA, in. ² / mm ²	4.53 / 2923		9.971 / 6433		17.603 / 11,357		39.662 / 25,588		69.829 / 45,051		109.563 / 70,686		156.894 / 101,222	
PRESSURE, in. w.c. / mbar	oz	g	oz	g	oz	g	oz	g	oz	g	oz	g	oz	g
0.4 / 1	1.1	31	2.3	65	4.1	116	9.2	261	0.2	6	9.4	266	4.4	125
0.8 / 2	2.1	60	4.6	130	8.2	232	2.4	68	0.4	11	2.9	82	8.9	252
1.2 / 3	3.2	91	6.9	196	12.3	349	11.6	329	0.6	17	12.3	349	13.3	377
1.6 / 4	4.2	119	9.3	264	0.4	11	4.8	136	0.9	26	5.8	164	1.7	48
2 / 5	5.3	150	11.6	329	4.4	125	14.0	397	1.1	31	15.2	431	6.2	176
2.4 / 6	6.3	179	13.9	394	8.5	241	7.3	207	1.3	37	8.7	247	10.6	301
2.8 / 7	7.4	210	0.2	6	12.6	357	0.5	14	1.5	43	2.1	60	15.0	425
3.2 / 8	8.4	238	2.5	71	0.7	20	9.7	275	1.7	48	11.5	326	3.5	99
3.6 / 9	9.5	269	4.8	136	4.8	136	2.9	82	1.9	54	5.0	142	7.9	224
4 / 10	10.5	298	7.2	204	8.9	252	12.1	343	2.2	62	14.4	408	12.3	349
4.8 / 12	12.6	357	11.8	335	1.1	31	14.5	411	2.6	74	1.3	37	5.2	147
5.6 / 14	14.7	417	0.4	11	9.2	261	0.9	26	3.0	85	4.2	119	14.1	400
6.4 / 16	0.8	23	5.0	142	1.4	40	3.4	96	3.5	99	7.1	201	6.9	196
7.2 / 18	2.9	82	9.7	275	9.6	272	5.8	164	3.9	111	10.0	283	15.8	448
8 / 20	5.0	142	14.3	405	1.8	51	8.2	232	4.3	122	12.9	366	8.7	247
8.8 / 22	7.1	201	2.9	82	9.9	281	10.6	301	4.8	136	15.7	445	1.5	43
9.6 / 24	9.2	261	7.6	215	2.1	60	13.1	371	5.2	147	2.6	74	10.4	295
10 / 26	11.3	320	12.2	346	10.3	292	15.5	439	5.6	159	5.5	156	3.3	94
11 / 28	13.5	383	0.8	23	2.5	71	1.9	54	6.0	170	8.4	238	12.2	346
12 / 30	15.6	442	5.5	156	10.6	301	4.3	122	6.5	184	11.3	320	5.0	142
13 / 32	1.7	48	10.1	286	2.8	79	6.7	190	6.9	196	14.2	403	13.9	394
14 / 34	3.8	108	14.7	417	11.0	312	9.2	261	7.3	207	1.1	31	6.8	193
14 / 36	5.9	167	3.4	96	3.2	91	11.6	329	7.8	221	3.9	111	15.6	442
15 / 38	8.0	227	8.0	227	11.3	320	14.0	397	8.2	232	6.8	193	8.5	241
16 / 40	10.1	286	12.6	357	3.5	99	0.4	11	8.6	244	9.7	275	1.4	40
17 / 42	12.2	346	1.2	34	11.7	332	2.8	79	9.1	258	12.6	357	10.2	289
18 / 44	14.3	405	5.9	167	3.9	111	5.2	147	9.5	269	15.5	439	3.1	88
18 / 46	0.4	11	10.5	298	12.0	340	7.7	218	9.9	281	2.4	68	12.0	340
19 / 48	2.5	71	15.1	428	4.2	119	10.1	286	10.4	295	5.3	150	4.8	136
20 / 50	4.6	130	3.8	108	12.4	352	12.5	354	10.8	306	8.1	230	13.7	388

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Table 4. Equivalent Weights for Vacuum Settings (continued)

INLET SIZE, in. / DN	2 / 50		3 / 80		4 / 100		6 / 150		8 / 200		10 / 250		12 / 300	
	4.53 / 2923		9.971 / 6433		17.603 / 11,357		39.662 / 25,588		69.829 / 45,051		109.563 / 70,686		156.894 / 101,222	
PRESSURE, in. w.c / mbar	oz	g	oz	g	oz	g	oz	g	oz	g	oz	g	oz	g
	21 / 52	6.7	190	8.4	238	4.6	130	14.9	422	11.2	318	11.0	312	6.6
22 / 54	8.8	249	13.0	369	12.7	360	1.4	40	11.6	329	13.9	394	15.4	437
23 / 56	10.9	309	1.7	48	4.9	139	3.8	108	12.1	343	0.8	23	8.3	235
23 / 58	13.0	369	6.3	179	13.1	371	6.2	176	12.5	354	3.7	105	1.2	34
24 / 60	15.1	428	10.9	309	5.3	150	8.6	244	12.9	366	6.6	187	10.0	283
25 / 62	1.2	34	15.6	442	13.4	380	11.0	312	13.4	380	9.5	269	2.9	82
26 / 64	3.3	94	4.2	119	5.6	159	13.5	383	13.8	391	12.3	349	11.8	335
27 / 66	5.4	153	8.8	249	13.8	391	15.9	451	14.2	403	15.2	431	4.6	130
27 / 68	7.5	213	13.5	383	6.0	170	2.3	65	14.7	417	2.1	60	13.5	383
28 / 70	9.6	272	2.1	60	14.1	400	4.7	133	15.1	428	5.0	142	6.4	181
29 / 72	11.7	332	6.7	190	6.3	179	7.1	201	15.5	439	7.9	224	15.2	431
30 / 74	13.8	391	11.3	320	14.5	411	9.6	272	16.0	454	10.8	306	8.1	230
31 / 76	15.9	451	16.0	454	6.7	190	12.0	340	0.4	11	13.7	388	1.0	28
31 / 78	2.1	60	4.6	130	14.8	420	14.4	408	0.8	23	0.5	14	9.9	281
32 / 80	4.2	119	9.2	261	7.0	198	0.8	23	1.3	37	3.4	96	2.7	77
33 / 82	6.3	179	13.9	394	15.2	431	3.2	91	1.7	48	6.3	179	11.6	329
34 / 84	8.4	238	2.5	71	7.4	210	5.7	162	2.1	60	9.2	261	4.5	128
35 / 86	10.5	298	7.1	201	15.5	439	8.1	230	2.6	74	12.1	343	13.3	377
35 / 88	12.6	357	11.8	335	7.7	218	10.5	298	3.0	85	15.0	425	6.2	176
36 / 90	14.7	417	0.4	11	15.9	451	12.9	366	3.4	96	1.9	54	15.1	428
37 / 92	0.8	23	5.0	142	8.1	230	15.4	437	3.8	108	4.7	133	7.9	224
38 / 94	2.9	82	9.7	275	0.3	9	1.8	51	4.3	122	7.6	215	0.8	23
39 / 96	5.0	142	14.3	405	8.4	238	4.2	119	4.7	133	10.5	298	9.7	275
39 / 98	7.1	201	2.9	82	0.6	17	6.6	187	5.1	145	13.4	380	2.5	71
40 / 100	9.2	261	7.5	213	8.8	249	9.0	255	5.6	159	0.3	9	11.4	323

Outside North America Only

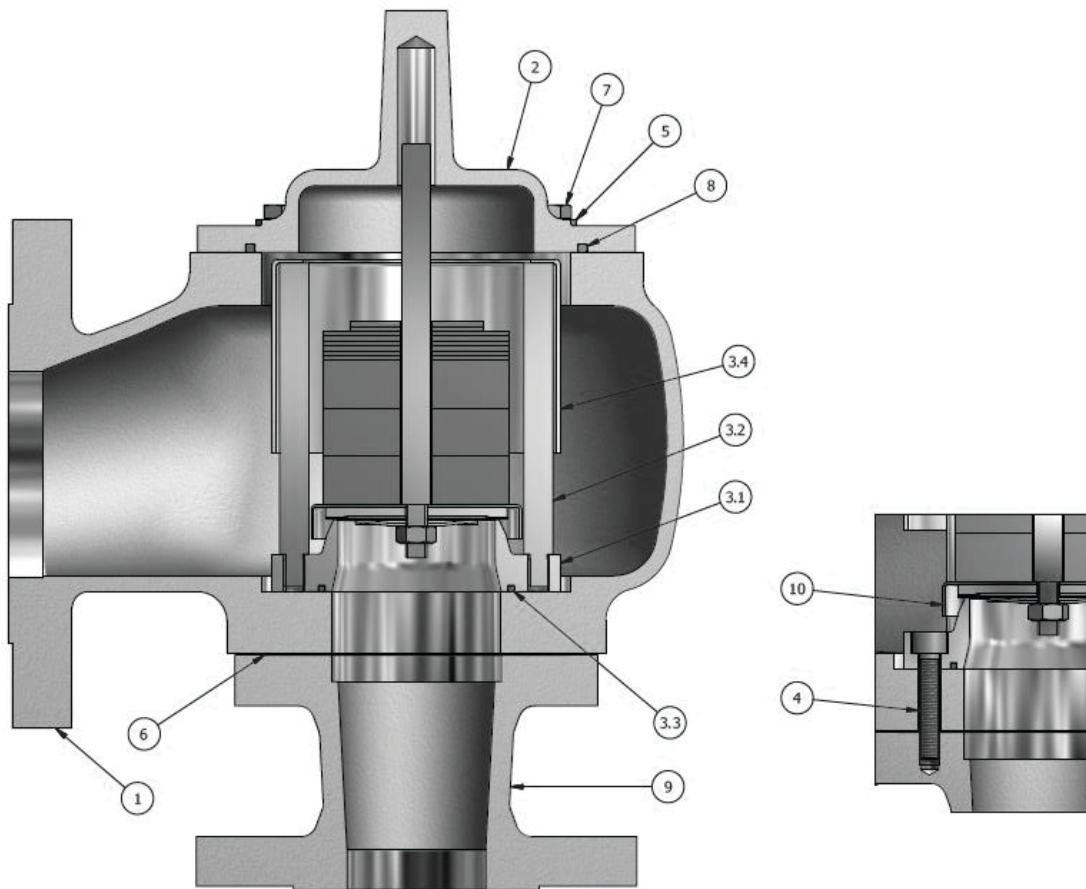


Figure 5. Type 4142HV Vacuum Relief Valve Assembly

Parts Ordering

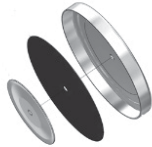
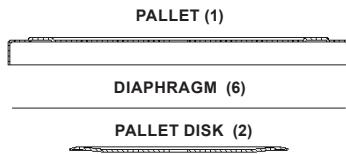
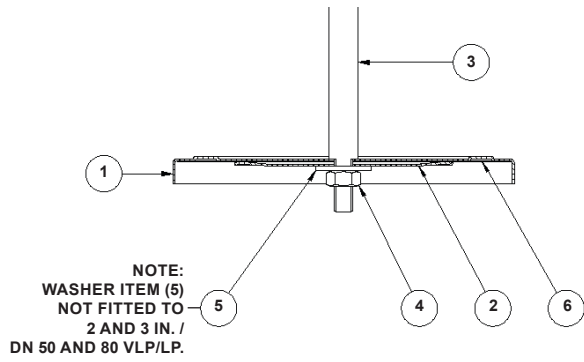
When corresponding with your local Sales Office about this pressure relief valve, include the type number, serial number and other information stamped on the nameplate.

When ordering replacement parts, reference the key number of each needed part and specify the eleven character part number as found in the following parts list.

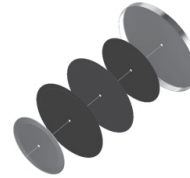
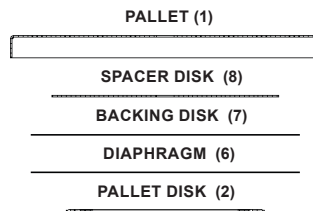
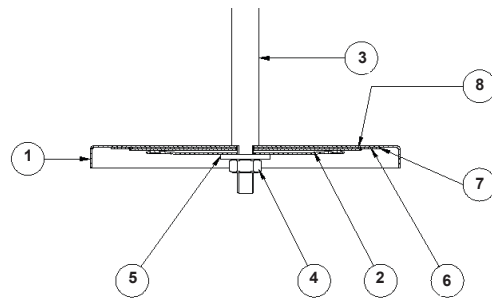
Parts List

Key	Description
1	Upper Body
2	Cover
3	Seat Assembly
3.1	Seat
3.2	Vacuum Post
3.3	O-ring
3.4	Shroud
4	Capscrew
5	Washer
6	Body Gasket
7	Hex Set Screw
8	O-ring
9	Inlet Flange
10	Pallet Assembly

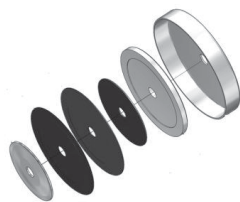
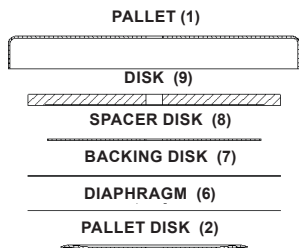
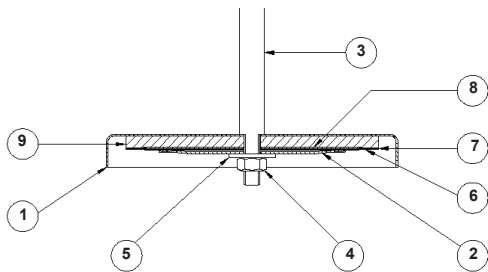
Type 4142HV



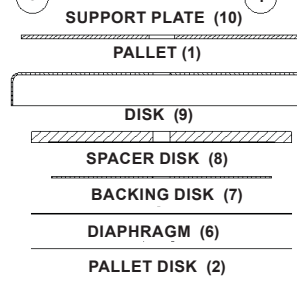
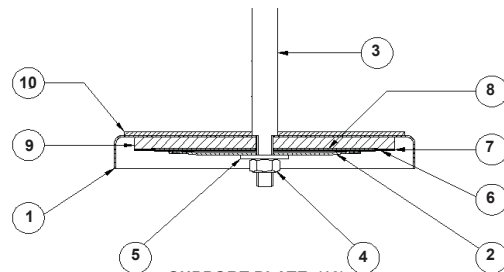
VERY LOW PRESSURE (VLP) AND LOW PRESSURE (LP)
PALLET FOR 2, 3, 4 IN. / DN 50, 80, 100⁽¹⁾



VERY LOW PRESSURE (VLP) AND LOW PRESSURE (LP)
PALLET FOR 6, 8, 10, 12 IN. / DN 150, 200, 250, 300



HIGH PRESSURE PALLET (HP) FOR
2, 3, 4, 6 IN. / DN 50, 80, 100, 150



HIGH PRESSURE PALLET FOR
8, 10, 12 IN. / DN 200, 250, 300

Figure 6. Pallet Construction

Table 5. Replacement Parts

DESCRIPTION	USAGE	MATERIAL	NOMINAL SIZE, in. / DN						
			2 / 50	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300
Pallet Disc (key 2)	Very low vacuum	Stainless Steel	809736-228	809742-228	809748-228	809754-228	809760-228	809766-228	809772-228
	Low vacuum	Stainless Steel	809397-228	809398-228	809399-228	809400-228	809443-228	809506-228	809522-228
	High vacuum	Stainless Steel	809397-228	809398-228	809399-228	809400-228	809443-228	809506-228	809522-228
Diaphragm (key 6)	Very low vacuum	PFA	810044-574	810046-574	810048-574	809589-574	809592-574	809595-574	809598-574
		PTFE	809580-A29	809583-A29	809586-A29	809589-A29	809592-A29	809595-A29	809598-A29
	Low vacuum	PFA	810045-574	810047-574	810049-574	810314-574	810316-574	810318-574	810320-574
		PTFE	809581-A29	809584-A29	809587-A29	810314-A29	810316-A29	810318-A29	810320-A29
High vacuum	PTFE	809582-A29	809585-A29	809588-A29	809591-A29	809594-A29	809597-A29	809600-A29	
Backing Disc (key 7)	Very low vacuum	Gen. Service	N/A	N/A	N/A	809989-447	810050-447	810051-447	810052-447
	Low vacuum	Gen. Service	N/A	N/A	N/A	810313-447	810315-447	810317-447	810319-447
	High vacuum	Gen. Service	809601-447	809602-447	809630-447	809604-447	809605-447	809606-447	809607-447
Spacer Disc (key 8)	Very low vacuum	Gen. Service	N/A	N/A	N/A	809611-447	809612-447	809613-447	809614-447
	Low vacuum	Gen. Service	N/A	N/A	N/A				
	High vacuum	Gen. Service	809608-447	809609-447	809610-447				
Body Gasket (key 6)	HC501V	Gen. Service	809401-447	809402-447	809403-447	808422-447	809444-447	809507-447	809523-447
O-ring (key 3.3)	Seat	Viton®	809702-504	809703-504	809632-504	800397-504	809634-504	807878-504	800386-504
		Nitrile (NBR)	809702-503	809703-503	809632-503	800397-503	809634-503	807878-503	800386-503
		PTFE	809702-502	809703-502	809632-502	800397-502	809634-502	807878-502	800386-502
O-ring (key 8)	Cover	Viton®	809630-504	809631-504	809633-504	809634-504	809640-504	809641-504	809642-504
		Nitrile (NBR)	809630-503	809631-503	809633-503	809634-503	809640-503	809641-503	809642-503
		PTFE	809630-502	809631-502	809633-502	809634-502	809640-502	809641-502	809642-502

Outside North America Only

Type 4142HV

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