

## For Ammonia (R-717) and Halocarbon Refrigerants 250 PSIG ASME CERTIFIED

### Features

**Maximum Allowable Working Pressure (MAWP)**  
Standard is 250 PSI @ -20°F to +450°F. Other MAWP's are available as requested.

**Minimum Design Metal Temperature (MDMT)**  
-20°F to -55°F (as specified).

**ASME Certified:** Vessels are designed, fabricated, tested, inspected, and stamped in accordance with ASME Code Section VIII, Division I, and registered with the National Board of Boiler and Pressure Vessel inspectors. Connections are in compliance with ANSI B 9.1 and B 31.5.

**Heads:** ASME Code 2:1 elliptical SA 516-70 carbon steel (normalized).

**Shell:** Shells 24" in diameter and smaller are SA 106 Gr. S/B, SA 53 Gr. S/B or SA 53 Gr. E/B pipe. Shells larger than 24" in diameter are 516-70 carbon steel plate. Normalized shells (per specification) are available in 30" diameter and larger.

**Connections:** ASTM A-53 Grade B and ASTM 1-106 Grade B. ASTM 333 Grade 6 available.

**Test Pressure:** Hydrostatically tested at 1.5 times design pressure. ASME code requires 1.3.

**Standard Receiver:** Furnished with connections listed herein. Horizontal vessels have nameplate, lifting lugs and 120° saddle plates welded to the shell. Vertical vessels have nameplate, lifting lugs and angle iron floor support legs.

**Service Valve Package (optional):** Isolation valves for the inlet and outlet connections, equalizer connection, drain connection, purge connection, and gage connections. Valves 2-1/2" and smaller are socket weld connections, 3" and larger are butt weld connections. Package also includes a H. A. Phillips & Co. liquid level column with Level Eyes®. All package items are shipped loose.

### Other Optional Accessories

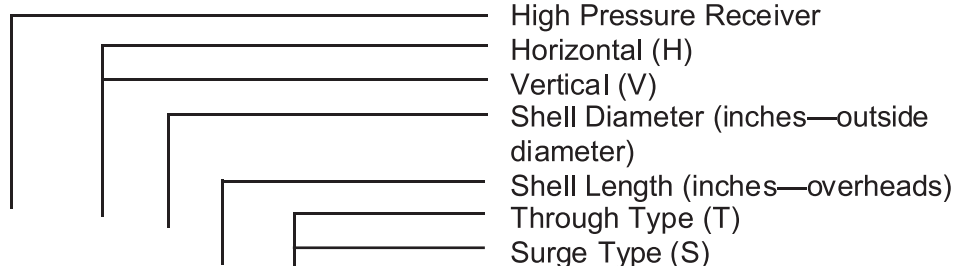
- Safety relief valve assemblies
- Phillips 4-20mA Level Probe
- Phillips FSP Float Switch
- QDV-15 Quick Closing Oil Drain Valve

### Design Function

Receivers function as a reservoir for liquid refrigerant. They should be sized to accommodate all of the refrigerant in the system, with 20% volume available for vapor at the highest liquid level. A reserve of liquid refrigerant should always prevail in the receiver during operation.

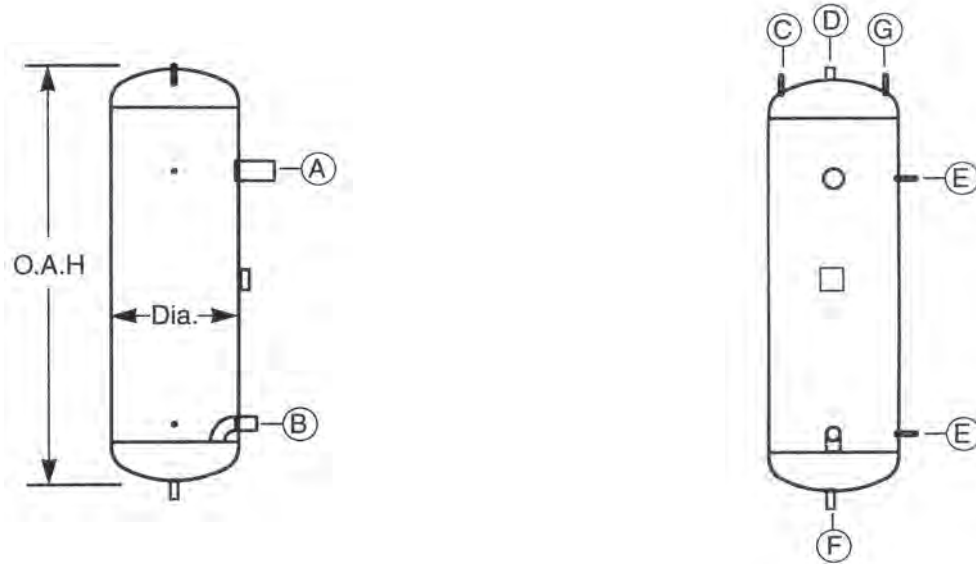
H. A. Phillips & Co. offers horizontal and vertical ammonia receivers in standard sizes with internal volume from 9.0 to 1167.8 cubic feet and storage capacities from 264 to 34,217 lbs. of +96°F liquid ammonia refrigerant based on 80% of internal volume.

### Nomenclature Explanation



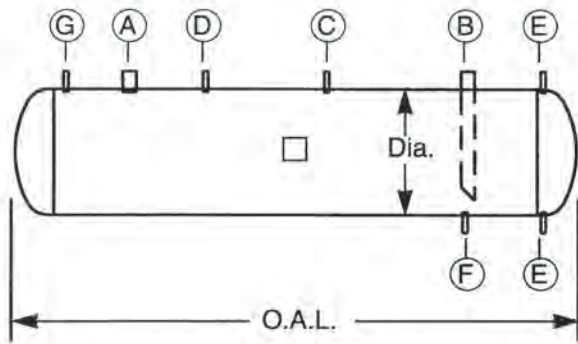
HPR (H or V) 16 085 (T or S)

# VERTICAL RECEIVERS

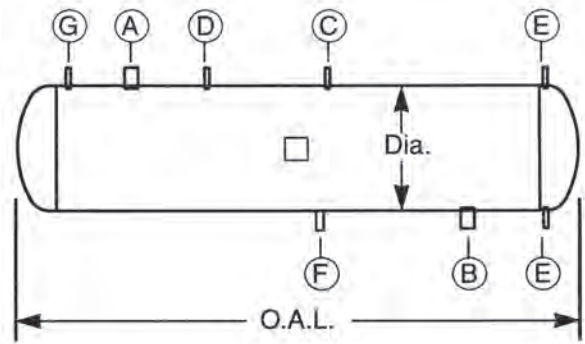


MODEL HPRV-	NOMINAL TR	DIMENSIONS (IN.)		CONNECTIONS FUNCTION & SIZE (IN.)							GROSS VOLUME (CU. FT.)	STORAGE CAPACITY (LBS.) 80% @ +96°F	SHIPPING WT. (LBS)
		DIA.	O.A.H.	A INLET	B OUTLET	C EQUAL.	D RELIEF	E GAUGE	F DRAIN	G PURGE			
30116	140	30	116	2	1-1/4	1-1/4	1/2	1	3/4	1/2	43.2	1266	1270
30140	180	30	140	2-1/2	1-1/2	1-1/2	1/2	1	3/4	1/2	53.0	1553	1525
30164	200	30	164	2-1/2	1-1/2	1-1/2	1/2	1	3/4	1/2	62.8	1840	1770
30188	225	30	188	2-1/2	1-1/2	1-1/2	1/2	1	3/4	1/2	72.6	2130	2110
36119	170	36	119	2-1/2	1-1/2	1-1/2	3/4	1	3/4	1/2	63.8	1870	1580
36143	210	36	143	2-1/2	1-1/2	1-1/2	3/4	1	3/4	1/2	78.0	2285	1875
36167	250	36	167	3	2	2	3/4	1	3/4	1/2	92.2	2705	2160
36191	290	36	191	3	2	2	3/4	1	3/4	1/2	106.4	3122	2460
42146	270	42	146	3	2	2	3/4	1	3/4	1/2	107.2	3144	2980
42170	320	42	170	3	2	2	3/4	1	3/4	1/2	125.4	3678	3440
42194	365	42	194	3	2	2	3/4	1	3/4	1/2	144.6	4240	3690
42218	410	42	218	4	2	2	1	1	3/4	1/2	163.8	4805	4340
48149	330	48	149	3	2	2	1	1-1/4	1	1/2	142.8	4184	3490
48173	390	48	173	4	2	2	1	1-1/4	1	1/2	168.0	4930	4125
48197	450	48	197	4	2-1/2	2-1/2	1	1-1/4	1	1/2	193.2	5667	4540
48221	510	48	221	4	2-1/2	2-1/2	1	1-1/4	1	1/2	218.4	6405	5050
54176	500	54	176	4	2-1/2	2-1/2	1	1-1/4	1	1/2	214.6	6295	5780
54200	580	54	200	4	2-1/2	2-1/2	1	1-1/4	1	1/2	246.4	7228	6505
54224	650	54	224	4	2-1/2	2-1/2	1	1-1/4	1	1/2	280.0	8215	7240
54248	725	54	248	4	3	3	1	1-1/4	1	1/2	310.0	9083	7950
60179	625	60	179	4	2-1/2	2-1/2	1	1-1/2	1	3/4	267.8	7856	8990
60203	720	60	203	4	3	3	1	1-1/2	1	3/4	307.0	9006	7380
60227	810	60	227	4	3	3	1	1-1/2	1	3/4	346.2	10,156	8190
60251	900	60	251	5	3	3	1	1-1/2	1	3/4	385.4	11,292	8990
72186	925	72	186	5	4	3	1	1-1/2	1	3/4	396.2	11,622	9890
72210	1060	72	210	5	4	3	1	1-1/2	1	3/4	452.8	13,283	11,060
72234	1190	72	234	5	4	4	1-1/4	1-1/2	1	3/4	509.4	7584	12,225
72258	1325	72	258	5	4	4	1-1/4	1-1/2	1	3/4	566.0	16,584	13,390
84190	1290	84	190	5	4	4	1-1/4	1-1/2	1	3/4	551.8	16,187	14,120
84214	1470	84	214	6	4	4	1-1/4	1-1/2	1	3/4	628.8	18,446	15,690
84238	1650	84	238	6	4	4	1-1/4	1-1/2	1	3/4	705.8	20,705	17,290
84262	1830	84	262	6	5	5	1-1/2	1-1/2	1	3/4	782.8	22,936	18,870

# HORIZONTAL RECEIVERS



**THROUGH TYPE**



**SURGE TYPE**

MODEL HPRH-	NOMINAL TR	DIMENSIONS (IN.)		CONNECTIONS FUNCTION & SIZE (IN.)							GROSS VOLUME (CU. FT.)	STORAGE CAPACITY (LBS.) 80% @ +96°F	SHIPPING WT. (LBS)
		DIA.	O.A.L.	A INLET	B OUTLET	C EQUAL.	D RELIEF	E GAUGE	F DRAIN	G PURGE			
16085	15	16	85	3/4	3/4	3/4	1/2	3/4	1/2	1/2	9.0	264	480
16133	25	16	133	1	3/4	3/4	1/2	3/4	1/2	1/2	14.6	428	760
16181	35	16	181	1	3/4	3/4	1/2	3/4	1/2	1/2	20.2	592	1024
16229	40	16	229	1-1/4	3/4	3/4	1/2	3/4	1/2	1/2	25.8	756	1290
18110	31	18	110	1	3/4	3/4	1/2	3/4	1/2	1/2	15.2	445	725
18158	46	18	158	1-1/4	3/4	3/4	1/2	3/4	1/2	1/2	22.4	656	1010
18206	61	18	206	1-1/4	1	1	1/2	3/4	1/2	1/2	29.6	867	1350
18254	76	18	254	1-1/2	1	1	1/2	3/4	1/2	1/2	36.8	1078	1620
20111	45	20	111	1-1/4	3/4	3/4	1/2	3/4	1/2	1/2	18.8	551	810
20159	65	20	159	1-1/4	1	1	1/2	3/4	1/2	1/2	27.6	809	1150
20207	88	20	207	1-1/2	1	1	1/2	3/4	1/2	1/2	36.4	1067	1480
20255	110	20	255	1-1/2	1-1/4	1-1/4	1/2	3/4	1/2	1/2	45.2	1324	1810
24113	100	24	113	1-1/2	1-1/4	1-1/4	1/2	3/4	3/4	1/2	26.8	785	1003
24137	120	24	137	1-1/2	1-1/4	1-1/4	1/2	3/4	3/4	1/2	33.0	967	1190
24161	140	24	161	2	1-1/4	1-1/4	1/2	3/4	3/4	1/2	39.2	1149	1405
24209	180	24	209	2	1-1/2	1-1/2	1/2	3/4	3/4	1/2	51.6	1512	1790
24257	220	24	257	2	1-1/2	1-1/2	1/2	1	3/4	1/2	64.0	1875	2180
30116	140	30	116	2	1-1/4	1-1/4	1/2	1	3/4	1/2	43.2	1266	1270
30140	180	30	140	2-1/2	1-1/2	1-1/2	1/2	1	3/4	1/2	53.0	1553	1525
30164	240	30	164	2-1/2	1-1/2	1-1/2	1/2	1	3/4	1/2	62.8	1840	1770
30212	260	30	212	2-1/2	1-1/2	2	1/2	1	3/4	1/2	82.4	2414	2260
30260	320	30	260	3	2	2	1/2	1	3/4	1/2	102.0	2989	2740
36143	210	36	143	2-1/2	1-1/2	1-1/2	3/4	1	3/4	1/2	78.0	2285	1875
36203	300	36	203	3	2	2	3/4	1	3/4	1/2	113.5	3326	2605
36239	360	36	239	3	2	2	3/4	1	3/4	1/2	134.8	3950	3040
36263	400	36	263	3	2	2	3/4	1	3/4	1/2	149.0	4366	3330
42146	270	42	146	3	2	2	3/4	1	3/4	1/2	107.2	3144	2980
42206	390	42	206	3	2	2	3/4	1	3/4	1/2	155.2	4547	4125
42242	460	42	242	3	2	2	3/4	1	3/4	1/2	184.0	5391	4810
42266	510	42	266	3	2-1/2	2-1/2	3/4	1	3/4	1/2	203.2	5934	5260
48149	330	48	149	3	2	2	3/4	1-1/4	1	1/2	142.8	4184	3510
48209	480	48	209	3	2	2	3/4	1-1/4	1	1/2	205.8	6030	4805

## HORIZONTAL RECEIVERS (continued)

MODEL HPRH-	NOMINAL TR	DIMENSIONS (IN.)		CONNECTIONS FUNCTION & SIZE (IN.)							GROSS VOLUME (CU. FT.)	STORAGE CAPACITY (LBS.) 80%@+96°F	SHIPPING WT. (LBS)
		DIA.	O.A.L.	A INLET	B OUTLET	C EQUAL.	D RELIEF	E GAUGE	F DRAIN	G PURGE			
48245	570	48	245	4	2-1/2	2-1/2	3/4	1-1/4	1	1/2	243.6	7137	5580
48269	620	48	269	4	2-1/2	2-1/2	3/4	1-1/4	1	1/2	268.8	7876	6090
48329	770	48	329	4	3	3	3/4	1-1/4	1	1/2	331.8	9722	7390
54212	610	54	212	4	2-1/2	2-1/2	3/4	1-1/4	1	1/2	262.3	7685	6890
54248	725	54	248	4	3	3	1	1-1/4	1	1/2	310.0	9083	7950
54272	800	54	272	4	3	3	1	1-1/4	1	1-1/2	341.8	10,015	8680
54332	980	54	332	4	3	3	1	1-1/4	1	1-1/2	421.3	12,344	10,490
54368	1090	54	368	4	3	3	1	1-1/4	1	1-1/2	469.0	13,742	11,590
60215	760	60	215	4	3	3	1	1-1/2	1	3/4	326.6	9569	7780
60251	900	60	251	4	3	3	1-1/4	1-1/2	1	3/4	385.4	11,292	8990
60275	990	60	275	1-1/4	1-1/4	3	1-1/4	1-1/2	1	3/4	424.6	12,441	9790
60335	1220	60	335	5	4	4	1-1/4	1-1/2	1	3/4	522.6	15,312	11,820
60371	1360	60	371	5	4	4	1-1/4	1-1/2	1	3/4	581.4	17,056	13,030
72222	1125	72	222	4	3	3	1	1-1/2	1	3/4	481.1	14,096	11,640
72258	1320	72	258	5	4	4	1	1-1/2	1	3/4	566.0	16,584	13,390
72282	1450	72	282	5	4	4	1-1/4	1-1/2	1	3/4	622.6	18,242	14,550
72342	1780	72	342	5	4	4	1-1/4	1-1/2	1	3/4	764.1	22,388	17,460
72378	1980	72	378	5	4	4	1-1/4	1-1/2	1	3/4	849.0	24,876	19,215
84226	1560	84	226	5	4	4	1-1/4	1-1/2	1	3/4	667.3	19,552	16,490
84262	1830	84	262	5	4	4	1-1/4	1-1/2	1	3/4	782.8	22,936	18,870
84286	2010	84	286	6	5	5	1-1/4	1-1/2	1	3/4	859.8	25,192	20,450
84346	2460	84	346	6	5	5	1-1/4	1-1/2	1	3/4	1052.3	30,382	24,410
84382	2730	84	382	6	5	5	1-1/2	1-1/2	1	3/4	1167.8	34,217	26,790

### When Ordering Specify:

- Model Number: \_\_\_\_\_
- Diameter: \_\_\_\_\_ (inches - outside diameter)
- Length: \_\_\_\_\_ (inches - overheads)
- Through or Surge: \_\_\_\_\_
- Design Pressure: \_\_\_\_\_ (P.S.I.G.)
- Design Temp: \_\_\_\_\_ °F
- Nozzle Sizing: A \_\_\_\_\_ D \_\_\_\_\_ G \_\_\_\_\_  
 B \_\_\_\_\_ E \_\_\_\_\_  
 C \_\_\_\_\_ F \_\_\_\_\_

## H. A. Phillips & Co.

770 Enterprise Avenue  
 DeKalb, IL. 60115 U.S.A.  
 Phone: (630) 377-0050  
 Fax: (630) 377-2706

