

Type R Two-Stage Design



FEATURES

- Standard and Compact Models
- Capable of Handling Slugs of Liquids
- Removes 99% of Liquid and Solid Entrainment Particles Larger than 10 Microns
- ASME Code Stamp
- Two 1/2" NPT Water Gauge Connections
- One 1/2" NPT Vent Connection
- No Required Maintenance
- Gas, Steam, or Air Applications

OPTIONS

- Support Stand
- Stainless Steel Construction
- Multiple Inlets and/or Outlets
- Sizes Larger than 16"

• For Heavier Than Normal Liquid Loads

• Flanged

• Fabricated Carbon Steel or Stainless Steel Construction

The Eaton standard size Type R Separators are designed for liquid slugs or heavy liquid loads, and can be provided with a large reservoir to meet liquid holdup requirements. For applications where space is restricted, a compact model is available.

Applications

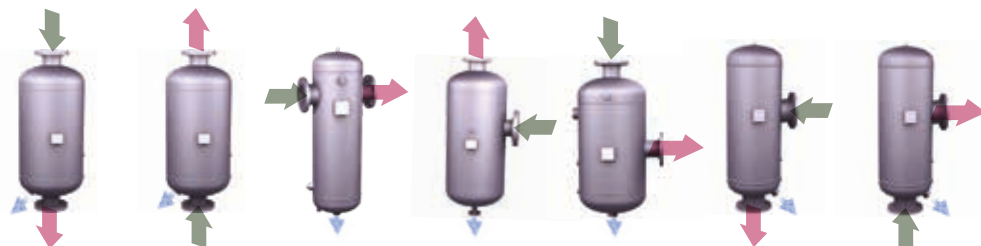
Type R Separators are widely used in the chemical and process industries where large

volumes of liquid must be separated from gases. They also may be used as a flash or surge tank, or as a scrubber or demister ahead of steam turbines.

Operation

Eaton's Type R Separators have two stages for separating large volumes of liquid from a smaller volume of a gas or vapor. In stage one, the flow enters the inlet and

is deflected downward by an impingement plate, causing it to lose velocity. This results in the majority of the liquid dropping into a reservoir. In the second stage, the moisture laden gas passes through a vane element where any remaining moisture is separated and flows down into the reservoir. The separator removes all liquid and solid entrainment where the particle size is 10 microns or greater.



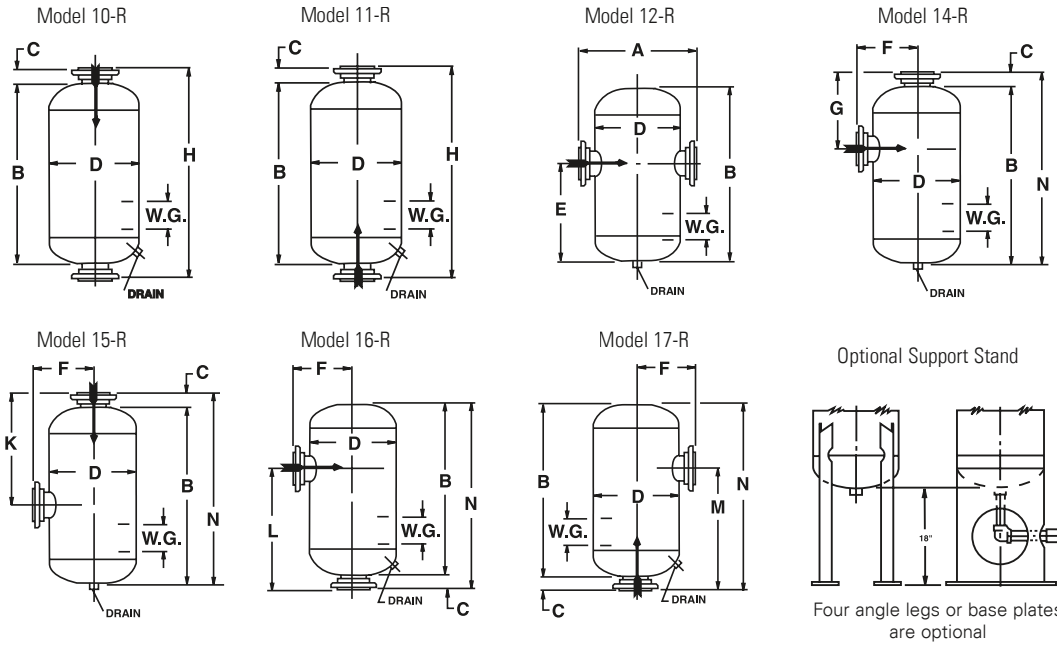
Liquid Holdup: Type R Standard/Compact (cu ft)

Element Size	Total Volume in Cubic Ft	Cubic Ft. of Volume Per Inch of Shell	10-R	11-R	12-R	14-R	15-R	16-R	17-R
3	3.16 / 1.01	0.10 / 0.05	0.26 / 0.12	0.67 / 0.28	0.80 / 0.12	0.60 / 0.16	0.28 / 0.16	0.80 / 0.28	0.67 / 0.28
4	4.93 / 1.85	0.13 / 0.07	0.54 / 0.28	1.26 / 0.59	1.43 / 0.44	1.35 / 0.42	0.60 / 0.44	1.43 / 0.44	1.32 / 0.44
5	6.62 / 2.96	0.16 / 0.08	1.01 / 0.47	2.00 / 0.73	2.32 / 0.85	2.25 / 0.73	1.11 / 0.47	2.21 / 0.85	2.12 / 0.73
6	11.44 / 5.22	0.23 / 0.13	2.49 / 1.16	4.21 / 1.89	4.85 / 1.67	4.60 / 1.89	2.61 / 1.16	4.24 / 1.67	3.98 / 1.89
8	22.67 / 10.89	0.36 / 0.24	6.10 / 3.36	10.04 / 5.19	11.09 / 4.19	10.90 / 5.97	6.78 / 3.36	10.20 / 5.03	7.53 / 4.61
10	33.51 / 14.69	0.52 / 0.26	11.45 / 4.37	18.11 / 7.09	17.91 / 5.85	18.48 / 6.35	12.82 / 3.87	16.18 / 5.85	11.96 / 5.61
12	60.97 / 23.34	0.73 / 0.38	20.86 / 7.31	31.41 / 11.34	30.49 / 9.27	32.09 / 9.27	20.06 / 6.79	24.82 / 9.27	20.86 / 7.84
14	91.15 / 37.15	0.96 / 0.56	30.40 / 11.81	53.04 / 18.08	43.48 / 14.07	46.62 / 15.07	29.34 / 8.55	36.22 / 12.06	31.01 / 11.06
16	129.95 / 55.74	1.21 / 0.76	46.76 / 16.30	67.32 / 26.55	61.00 / 21.08	67.62 / 22.45	41.11 / 12.20	52.87 / 22.45	43.13 / 19.72



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Type R Gas/Liquid Separators



Construction

Type R Separators are constructed in accordance with the ASME Code Section VIII, Division 1 and are code stamped. They are available with 150 lb. slip on raised face flanges rated at 200 psi at 300 °F or with 300 lb. slip on raised face flanges rated at 250 psi at 650 °F. They feature fabricated carbon steel construction, with internal vane blades made of 304L stainless steel.

See technical section for Air and Steam Capacity Charts

Four angle legs or base plates are optional

Dimensions: Type R Gas/Liquid Separators (in/mm)

	Element Size	Inlet & Outlet	A	B	C	D	E	F	G	H	K	L	M	N	Gauge Connect Center to Center	Drain NPT
Model 10-R Standard	3	3	24 / 610	32 / 813	4 / 102	16 / 406	18 / 457	12 / 305	15 / 381	40 / 1016	22 / 559	22 / 559	22 / 559	36 / 914	6.75 / 171	1-1/2
	4	4	26 / 660	36 / 914	4 / 102	18 / 457	23 / 584	13 / 330	16 / 406	44 / 1118	23 / 584	27 / 686	27 / 686	40 / 1016	7.87 / 200	1-1/2
	5	5	30 / 762	40 / 1016	5 / 127	20 / 508	24 / 610	15 / 381	20 / 508	50 / 1270	28 / 711	29 / 737	29 / 737	45 / 1143	7.87 / 200	1-1/2
	6	6	34 / 864	48 / 1219	5 / 127	24 / 610	29 / 737	17 / 432	23 / 584	58 / 1473	33 / 838	34 / 864	34 / 864	53 / 1346	7.87 / 200	1-1/2
	8	8	40 / 1016	60 / 1524	5 / 127	30 / 762	38 / 965	20 / 508	26 / 660	70 / 1778	38 / 965	43 / 1092	43 / 1092	65 / 1651	9.12 / 232	2
	10	10	48 / 1219	72 / 1829	6 / 152	36 / 914	44 / 1118	24 / 610	33 / 838	84 / 2134	48 / 1219	50 / 1270	50 / 1270	78 / 1981	9.12 / 232	2
	12	12	54 / 1372	84 / 2134	6 / 152	42 / 1067	52 / 1321	27 / 686	36 / 914	96 / 2438	55 / 1397	58 / 1473	58 / 1473	90 / 2286	10.25 / 260	2-1/2
Model 10-R Compact	3	3	16 / 406	28 / 711	4 / 102	10-3/4 / 273	14 / 356	8 / 203	15 / 381	36 / 914	21 / 533	18 / 457	18 / 457	32 / 813	6.75 / 171	1-1/2
	4	4	20 / 508	35 / 889	4 / 102	12-3/4 / 324	19 / 483	10 / 254	20 / 508	43 / 1092	23 / 584	20 / 508	20 / 508	39 / 991	6.75 / 171	1-1/2
	5	5	22 / 559	40 / 1016	4 / 102	14 / 356	22 / 559	11 / 279	22 / 559	48 / 1219	26 / 660	26 / 660	26 / 660	44 / 1118	6.75 / 171	1-1/2
	6	6	24 / 610	48 / 1219	4 / 102	18 / 457	26 / 660	12 / 305	24 / 610	56 / 1422	30 / 762	32 / 813	32 / 813	52 / 1321	6.75 / 171	1-1/2
	8	8	30 / 762	56 / 1422	5 / 127	24 / 610	32 / 813	15 / 381	27 / 686	66 / 1676	37 / 940	37 / 940	37 / 940	61 / 1549	7.875 / 200	2
	10	10	34 / 864	64 / 1626	5 / 127	24 / 610	35 / 889	17 / 432	35 / 889	74 / 1880	45 / 1143	40 / 1016	40 / 1016	69 / 1753	7.875 / 200	2
	12	12	38 / 965	72 / 1829	5 / 127	30 / 762	39 / 991	19 / 483	38 / 965	82 / 2438	51 / 1295	44 / 1118	44 / 1118	77 / 1956	7.875 / 200	2-1/2
14	14	42 / 1067	80 / 2032	5 / 127	36 / 914	41 / 1041	21 / 533	42 / 1067	90 / 2083	55 / 1397	46 / 1168	46 / 1168	85 / 2159	7.875 / 200	2-1/2	
16	16	46 / 1168	88 / 2235	5 / 127	40 / 1016	44 / 1118	23 / 584	45 / 1143	98 / 2489	60 / 1524	48 / 1219	48 / 1219	93 / 2362	7.875 / 200	3	

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