

Capacities and Pressure Drop

CAPACITIES—expressed in CFH (m³/h)—0.64 sp gr gas

Model Number and Pipe Size		CSA MAX	Pressure Drop Inches w.c. (mbar)												
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	2	3	4
RV52	1/2 x 1/2 3/4 x 3/4	450 (12.7)	151 (4.2)	214 (6.1)	262 (7.4)	302 (8.5)	338 (9.5)	370 (10.5)	400 (11.3)	427 (12.1)	453 (12.8)	478 (13.5)	676 (19.1)	828 (23.4)	956 (27.1)
RV53	3/4 x 3/4 1 x 1	710 (20.1)	217 (6.1)	306 (8.6)	375 (10.6)	433 (12.2)	484 (13.7)	530 (15)	573 (16.2)	612 (17.3)	650 (18.4)	684 (19.3)	968 (27.4)	1185 (33.5)	1369 (38.7)
RV61	1 x 1 1-1/4 x 1-1/4	1100 (31.1)	379 (10.7)	536 (15.1)	675 (19.1)	759 (21.5)	848 (24)	929 (26.3)	1004 (28.4)	1073 (30.4)	1138 (32.2)	1200 (34.0)	1742 (49.3)	2134 (60.4)	2464 (69.8)
RV81	1-1/4 x 1-1/4 1-1/2 x 1-1/2	2500 (70.8)	780 (22.1)	1102 (31.2)	1350 (38.2)	1559 (44.1)	1743 (49.5)	1909 (54)	2062 (58.4)	2204 (62.4)	2339 (66.2)	2465 (69.8)	3485 (98.7)	4269 (120)	4929 (139)
RV91	2 x 2 2-1/2 x 2-1/2	3275 (92.7)	1212 (34.3)	1714 (48.5)	2100 (59.4)	2424 (68.6)	2711 (76.7)	2969 (84.1)	3208 (90.8)	3429 (97.1)	3637 (103)	3834 (108)	5422 (153)	6640 (188)	7668 (217)
RV111	2-1/2 x 2-1/2 3 x 3	7500 (212)	2742 (78)	3878 (110)	4750 (134)	5485 (155)	6132 (175)	6718 (190)	7256 (205)	7757 (219)	8227 (233)	8572 (243)	12134 (343)	14862 (420)	17161 (486)
RV131	4 x 4	--	4734 (134)	6695 (190)	8200 (232)	9468 (268)	10586 (300)	11596 (328)	12525 (354)	13390 (380)	14202 (402)	14971 (424)	21172 (600)	25930 (734)	29942 (848)

Sizing Instructions

In order to select the proper size regulator, you must know the available inlet pressure, desired outlet pressure, and the required maximum flow rate.

Example No. 1—To select a regulator of ample capacity to handle flow.

KNOWN:

Pipe size 2-1/2", flow rate 8,000 CFH (0.64 sp gr), inlet pressure 9" w.c., desired outlet pressure 5" w.c.

SOLUTION:

- Determine differential pressure available:
 Inlet pressure 9" w.c.
 Subtract outlet pressure - 5" w.c.
 Available differential pressure 4" w.c.
- When determining capacity Maxitrol recommends that the pressure drop not exceed 1/2 of available differential pressure (1/2 of 4" w.c. = 2" w.c.).
- Check Capacity Chart to determine which regulator has a pressure drop of 2" w.c. or less at a flow rate of 8,000 CFH.
- The RV111 meets these standards with a flow rate of 12,134 CFH for the 2-1/2" pipe size at 2" w.c. pressure drop. The 2-1/2" RV91 flows 5422 CFH at 2" w.c. pressure drop. Therefore, the RV111—2-1/2" is the correct regulator to use.

Example No. 2—To determine maximum recommended operating outlet pressure.

KNOWN:

Pipe size 4", flow rate 21,000 CFH, inlet pressure 10" w.c.

SOLUTION:

- Check capacity Chart above for 4" regulator, RV131.
- Note that at a flow rate of 21,172 CFH the pressure drop is 2" w.c.
- Multiply this by two to obtain recommended differential pressure (4" w.c.).
- Subtract 4" differential pressure from 10" w.c. inlet pressure to obtain maximum recommended outlet pressure setting of 6" w.c.

