



Automatic Sump Drainers
Models 2R-W, 2R-WL, 2R-S, 2R-SL

Do you have underground cable, wiring or piping with maintenance pits? These areas often have no electrical service readily available. So, in applications such as these, Penberthy Submersible Automatic Sump Drainers provide practical solutions. These reliable, failsafe units create a powerful pumping action by using either liquid or saturated steam as the operating medium ... all without electricity! Advantages such as these allow these units to function effectively in either primary pumping operations or on standby when electrical failure occurs. As a result, these units cannot be flooded out, require minimal upkeep and are unaffected by power outages. Capitalizing on a time-proven design, these units are available in either a space-saving non-loop design or an efficient loop configuration. They feature durable construction for long life, simple design, no need for electricity, no moving parts in jet pump to wear out, low initial cost, easy installation and are virtually maintenance-free.

Model 2R-W (non-loop) & **Model 2R-WL** (loop) operate with a liquid motive, while **Model 2R-S** (non-loop) & **Model 2R-SL** (loop) use a steam motive. Typical applications include: sump evacuation, steam service/boiler room operations, general manufacturing installations, in-plant services and manufacturing processes of many types. So, in areas where access is limited, Penberthy Submersible Automatic Sump Drainers are the perfect choice!

Models Available

2R-W, 2R-WL, 2R-S, 2R-SL



Selection Guide

Submersible Automatic Sump Drainers can be properly selected by focusing on the following information:

MOTIVE:

- Water or Steam
- Pressure (Available)
- Flow rate (Available volume)

SUCTION:

- Required Pumping Capacity

DISCHARGE:

- Pressure or Discharge Head (That unit must overcome)

Model Specifications: 2R-W, 2R-WL

Model	Pipe Connect (Outlet)	Pipe Connect (Inlet)	High Water	Drainer Diam.
2R-W	1 1/4" (31.8 mm)	3/4" (19.1 mm)	13 1/2" (343 mm)	12 7/8" (327 mm)
2R-WL	1 1/4" (31.8 mm)	3/4" (19.1 mm)	13 1/2" (343 mm)	12 7/8" (327 mm)

Model Specifications: 2R-S, 2R-SL

Model	Pipe Connect (Outlet)	Pipe Connect (Inlet)	High Water	Drainer Diam.
2R-S	1 1/4" (31.8 mm)	3/4" (19.1 mm)	13 1/2" (343 mm)	12 7/8" (327 mm)
2R-SL	1 1/4" (31.8 mm)	3/4" (19.1 mm)	13 1/2" (343 mm)	12 7/8" (327 mm)

2R-W/2R-WL Capacities: gph (lph) of Suction Flow

Model	Discharge Head In feet (meters)	Operating Water Pressure psig (kPag)									
		10 (69)	15 (103)	20 (138)	30 (207)	40 (276)	60 (414)	80 (552)	100 (689)	120 (827)	150 (1034)
2R-W	5 (1.5)	216 (817)	308 (1165)	417 (1578)	547 (2070)	888 (3361)	897 (3395)	1,071 (4053)	1,008 (3815)	999 (3781)	984 (3724)
	6 (1.8)		302 (1143)	401 (1517)	514 (1945)	740 (2600)	838 (3171)	1,060 (4012)	1,008 (3815)	999 (3781)	984 (3724)
	9 (2.7)				403 (1525)	559 (2115)	803 (3034)	1,048 (3815)	1,008 (3815)	999 (3781)	984 (3724)
	12 (3.7)					452 (1710)	702 (2657)	820 (3103)	1,008 (3815)	999 (3781)	984 (3704)
	15 (4.6)						629 (2360)	817 (3092)	966 (3656)	999 (3781)	984 (3724)
	18 (5.5)							708 (2699)	914 (3449)	999 (3815)	984 (3724)
2R-WL	5 (1.5)	240 (908)	342 (1294)	463 (1752)	608 (2301)	742 (2808)	930 (3520)	1,190 (4504)	1,120 (4239)	1,110 (4201)	1,093 (4137)
	6 (1.8)		335 (1267)	446 (1688)	571 (2161)	622 (2354)	1,042 (3943)	1,178 (4498)	1,120 (4239)	1,110 (4201)	1,093 (4137)
	9 (2.7)			273 (1033)	448 (1695)	621 (2350)	892 (3376)	1,164 (4405)	1,120 (4239)	1,110 (4201)	1,093 (4137)
	12 (3.7)				321 (1214)	502 (1400)	780 (2952)	1,022 (3868)	1,120 (4239)	1,110 (4201)	1,093 (4137)
	15 (4.6)					344 (1302)	684 (2588)	908 (3436)	1,073 (4061)	1,110 (4201)	1,093 (4137)
	18 (5.5)						207 (783)	542 (2051)	788 (2982)	1,015 (3841)	1,107 (4149)

2R-S/2R-SL Capacities: gph (lph) of Suction Flow

Model	Discharge Head In feet (meters)	Operating Steam Pressure psig (kPag)									
		10 (69)	15 (103)	20 (138)	30 (207)	40 (276)	60 (414)	80 (552)	100 (689)	120 (827)	150 (1034)
2R-S	5 (1.5)	249 (942)	409 (1548)	524 (1983)	686 (2590)	940 (3557)	1,044 (3951)	1,035 (3917)	990 (3747)	963 (3644)	904 (3421)
	6 (1.8)		383 (1449)	476 (1801)	644 (2437)	862 (3262)	1,040 (3936)	1,035 (3917)	944 (3573)	963 (3614)	904 (3421)
	9 (2.7)				562 (2127)	721 (2728)	1,026 (3883)	1,040 (3936)	998 (3777)	963 (3644)	904 (3421)
	12 (3.7)					557 (2108)	880 (3330)	1,042 (3943)	990 (3747)	945 (3576)	904 (3421)
	15 (4.6)						703 (2660)	1,038 (3928)	990 (3747)	945 (3576)	904 (3421)
	18 (5.5)							873 (3304)	988 (3739)	864 (3270)	904 (3421)
2R-SL	5 (1.5)	328 (1241)	454 (1749)	582 (2202)	773 (2925)	1,044 (3951)	1,160 (4390)	1,150 (4352)	1,100 (4163)	1,070 (4049)	1,005 (3803)
	6 (1.8)		437 (1654)	529 (2002)	715 (2706)	958 (3626)	1,158 (4314)	1,140 (4314)	1,104 (4178)	1,070 (4049)	1,005 (3803)
	9 (2.7)				625 (2365)	801 (3031)	1,140 (4314)	1,155 (4371)	1,109 (4197)	1,070 (4049)	1,005 (3803)
	12 (3.7)					619 (2342)	978 (3701)	1,158 (4383)	1,100 (4163)	1,050 (3974)	1,005 (3803)
	15 (4.6)						781 (2956)	1,154 (4367)	1,100 (4163)	1,050 (3974)	1,005 (3803)
	18 (5.5)							970 (3671)	1,098 (4195)	1,050 (3974)	1,005 (3803)

Water Consumption – gph (lph)

2R-W	135 (510)	165 (624)	180 (681)	225 (851)	225 (851)	300 (1135)	345 (1305)	390 (1476)	420 (1599)	471 (1782)
2R-WL	135 (510)	165 (624)	180 (681)	225 (851)	225 (851)	300 (1135)	345 (1305)	390 (1476)	420 (1599)	471 (1782)

Steam Consumption – lbs./min. (kg/min.)

2R-S	0.47 (.21)	0.59 (.27)	0.69 (.31)	0.89 (.40)	1.10 (.50)	1.50 (.66)	1.80 (.83)	2.20 (1.0)	2.60 (1.2)	3.10 (1.4)
2R-SL	0.54 (.24)	0.66 (.30)	0.77 (.35)	0.99 (.45)	1.20 (.54)	1.60 (.73)	2.00 (.93)	2.50 (1.1)	2.90 (1.3)	3.50 (1.6)

** All suction flow rates are based upon water at 70° F (21° C)