

Environmental Submersible Pumps

Grundfos 45S Enviro Retrofitted Submersible Pumps

These Grundfos submersible pumps are made of stainless steel and retrofitted with PTFE to handle the rigors of contaminated groundwater pumping and continuous operation in remediation applications. Built to deliver optimum efficiency during periods of high demand, all Grundfos pumps provide low, long-term operating costs and high operating reliability regardless of the application.

Grundfos Enviro retrofitted submersibles meet government guidelines for environmental equipment and have been proven through extensive use in the field.

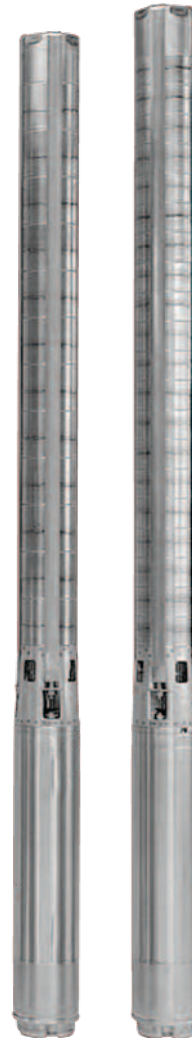
FEATURES

- **Made For 4" (10 cm) and Larger Wells**
Flow rates of 5 to 58 GPM (18.9 to 219.6 LPM).
- **State-of-the-art Hydraulics**
Pump efficiency is maximized by constant improvement of the high-performance hydraulic design, and precise manufacturing process.
- **Manufactured With High-grade Stainless Steel**
Rugged stainless steel construction inside and out resists corrosion and attack from aggressive liquids.
- **Wear-resistant Design**
Designed to flush abrasive particles from the pump, and made from stainless steel to resist wear caused by abrasives.
- **Built-in Check Valve**
Prevents back-flow into the well once the pump is shut down.
- **User Friendly Cable Guard For Easy Installation**
- **1 to 25 HP Motors**
Stainless steel construction and quality design.
- **Motor Controls and Protection**
Available controls to protect the motor against burnout and dry-running, plus the ability to monitor the system allowing the user to optimize settings.

OPERATION

Typical clean-up operations include water table depression techniques to isolate and remove dissolved contaminants.

With correct placement of the recovery well and proper sizing of the depression pump, the water table is depressed to stop and reverse the movement of the contamination plume. Once isolated, the contaminant is removed for treatment, re-use, or proper disposal.



GRUNDFOS 

*Geotech is a Certified
Grundfos Master Distributor*

CALL GEOTECH TODAY (800) 833-7958

Geotech Environmental Equipment, Inc.

2650 East 40th Avenue • Denver, Colorado 80205

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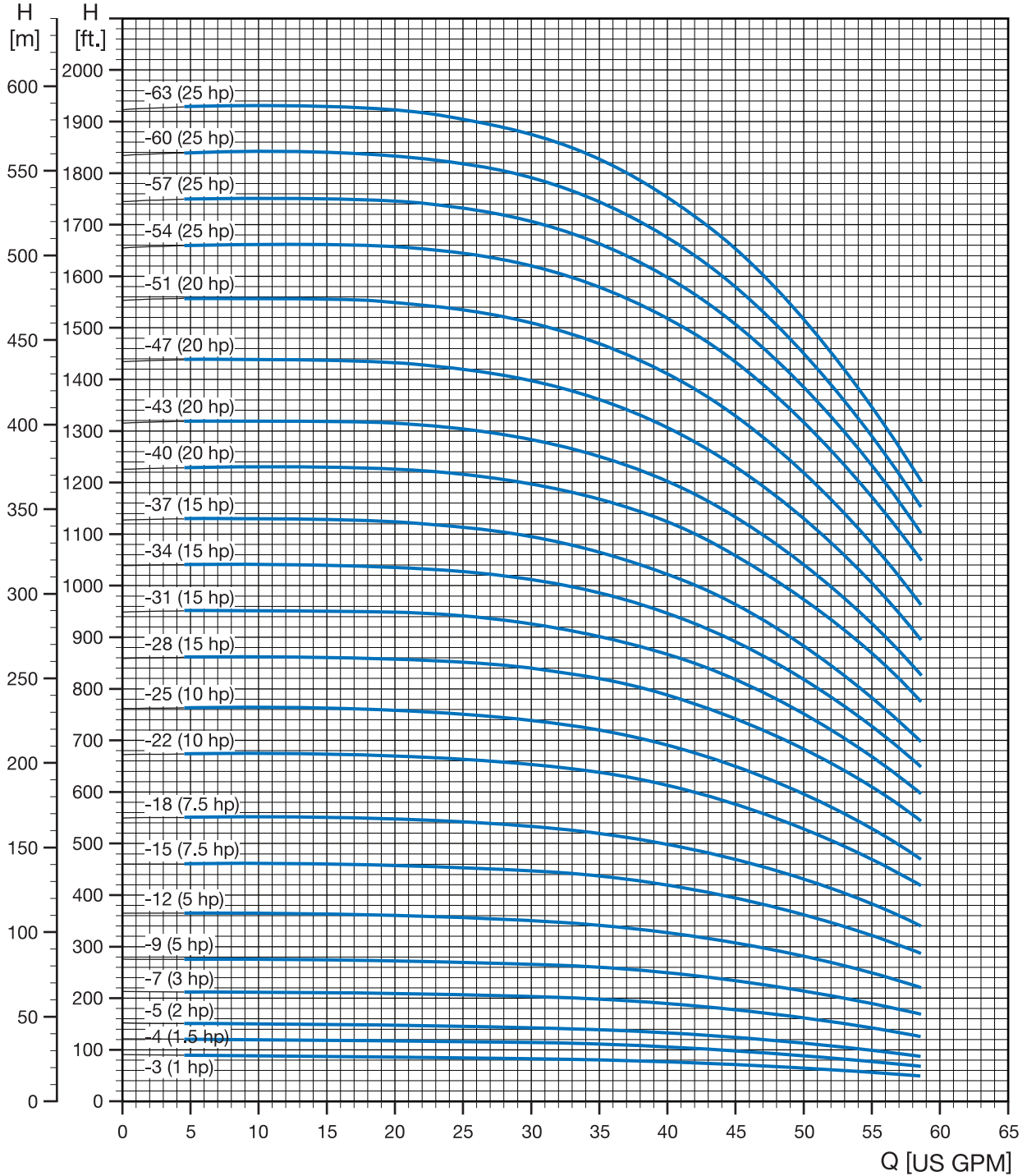
Model 45S Enviro Retrofitted 45 GPM (170.3 LPM) Performance Curves

FLOW RANGE: 5 - 58 GPM

OUTLET SIZE: 2" NPT

NOMINAL DIA. 4"*

4" and larger wells
SP 45S (45 gpm)



Subtract 10% of Performance (TDH & Flow) from Curve for Environmental Retrofit Pump Ends

Specifications subject to change without notice.

4" motor standard, 1-10 HP/3450 RPM.

6" motor standard, 7.5-25 HP/3450 RPM.

* DS Model Requires 6" diameter motor.

DS = Deep Set model version for high head requirements.

Performance conforms to ISO 9906. 1999 (E) Annex A. 2 ft. minimum submergence.

MATERIALS OF CONSTRUCTION

COMPONENT	CYLINDRICAL SHAFT (3-37 Stgs.)	DEEP SET (40-63 Stgs.)
Check Valve Housing	304 Stainless Steel	304 Stainless Steel
Check Valve	304 Stainless Steel	304 Stainless Steel
Diffuser Chamber	304 Stainless Steel	304 Stainless Steel
Impeller	304 Stainless Steel	304 Stainless Steel
Suction Interconnector	304 Stainless Steel	304 Stainless Steel
Inlet Screen	304 Stainless Steel	304 Stainless Steel
Pump Shaft	431 Stainless Steel	431 Stainless Steel
Straps	304 Stainless Steel	304 Stainless Steel
Cable Guard	304 Stainless Steel	304 Stainless Steel
Priming Inducer	304 Stainless Steel	304 Stainless Steel
Coupling	316 Stainless Steel	316 Stainless Steel
Check Valve Seat	NBR/316 Stainless Steel	NBR/316 Stainless Steel
Top Bearing	PTFE/316 Stainless Steel	PTFE/316 Stainless Steel
Impeller Seal Ring	PTFE/316 Stainless Steel	PTFE/316 Stainless Steel
Intermediate Bearings	PTFE/316 Stainless Steel	PTFE/316 Stainless Steel
Shaft Upthrust Washer	LCP (Vectra®)	LCP (Vectra®)
Split Cone	304 Stainless Steel	304 Stainless Steel
Split Cone Nut	304 Stainless Steel	304 Stainless Steel
Sleeve	Not Required	316 Stainless Steel
Sleeve Flange	Not Required	304 Stainless Steel

NOTES: Specifications are subject to change without notice.

Vectra® is a registered trademark of Hoechst Calanese Corporation.



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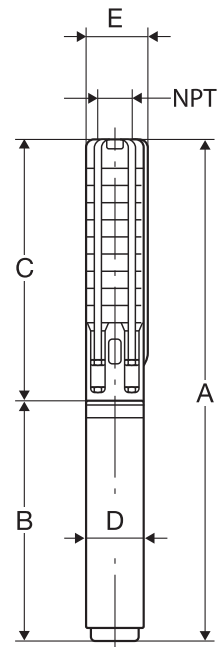
SPECIFICATIONS

4" and larger wells

SP 45S (45 gpm)/4 inch motor

45S - Motor dia. 4 inch, 3 wire motor, 60 Hz, rated flow 45 gpm (2" NPT)

Pump Model	Nom. Head (ft.)	Ph	Volts (V)	Motor (Hp)	Dimensions in. (mm)					Net Weight (complete) (lb.)
					A	B	C	D	E	
45S10-3	72	1	230	1	28.94 (735)	13.67 (347)	15.28 (388)	3.75 (95)	3.98 (101)	31.5
		3	230	1	27.76 (705)	12.49 (317)	15.28 (388)	3.75 (95)	3.98 (101)	28.8
		3	460	1	27.76 (705)	12.49 (317)	15.28 (388)	3.75 (95)	3.98 (101)	28.6
		3	575	1	27.76 (705)	12.49 (317)	15.28 (388)	3.75 (95)	3.98 (101)	28.6
45S15-4	97	1	230	1.5	32.49 (825)	15.24 (387)	17.25 (438)	3.75 (95)	3.98 (101)	36.5
		3	230	1.5	30.91 (785)	13.67 (347)	17.25 (438)	3.75 (95)	3.98 (101)	33.0
		3	460	1.5	30.91 (785)	13.67 (347)	17.25 (438)	3.75 (95)	3.98 (101)	33.0
		3	575	1.5	30.91 (785)	13.67 (347)	17.25 (438)	3.75 (95)	3.98 (101)	32.8
45S20-5	123	1	230	2	38.78 (985)	19.57 (497)	19.22 (488)	3.75 (95)	3.98 (101)	53.4
		3	230	2	34.45 (875)	15.24 (387)	19.22 (488)	3.75 (95)	3.98 (101)	38.0
		3	460	2	34.45 (875)	15.24 (387)	19.22 (488)	3.75 (95)	3.98 (101)	38.2
		3	575	2	34.45 (875)	15.24 (387)	19.22 (488)	3.75 (95)	3.98 (101)	38.0
45S30-7	174	1	230	2	44.69 (1135)	19.57 (497)	25.12 (638)	3.75 (95)	3.98 (101)	57.3
		3	230	3	45.87 (1165)	22.72 (577)	23.15 (588)	3.75 (95)	3.98 (101)	64.8
		3	208-230	3	41.15 (1045)	18.00 (457)	23.15 (588)	3.75 (95)	3.98 (101)	51.6
		3	460	3	41.15 (1045)	18.00 (457)	23.15 (588)	3.75 (95)	3.98 (101)	51.6
45S50-9	225	1	230	5	53.75 (1365)	26.66 (677)	27.09 (688)	3.75 (95)	3.98 (101)	78.4
		3	208-230	5	49.81 (1265)	22.72 (577)	27.09 (688)	3.75 (95)	3.98 (101)	67.4
		3	460	5	49.81 (1265)	22.72 (577)	27.09 (688)	3.75 (95)	3.98 (101)	67.4
45S50-12	302	1	230	5	59.65 (1515)	26.66 (677)	33.00 (838)	3.75 (95)	3.98 (101)	82.2
		3	208-230	5	55.71 (1415)	22.72 (577)	33.00 (838)	3.75 (95)	3.98 (101)	71.2
		3	460	5	55.71 (1415)	22.72 (577)	33.00 (838)	3.75 (95)	3.98 (101)	71.2
45S75-15	379	3	208-230	7.5	65.56 (1665)	26.66 (677)	38.90 (988)	3.75 (95)	3.98 (101)	86.1
		3	460	7.5	65.56 (1665)	26.66 (677)	38.90 (988)	3.75 (95)	3.98 (101)	86.1
		3	575	7.5	65.56 (1665)	26.66 (677)	38.90 (988)	3.75 (95)	3.98 (101)	86.1
45S75-18	455	3	208-230	7.5	71.46 (1815)	26.66 (677)	44.81 (1138)	3.75 (95)	3.98 (101)	89.9
		3	460	7.5	71.46 (1815)	26.66 (677)	44.81 (1138)	3.75 (95)	3.98 (101)	89.9
		3	575	7.5	71.46 (1815)	26.66 (677)	44.81 (1138)	3.75 (95)	3.98 (101)	89.9
45S100-22	558	3	460	10	83.27 (2115)	30.60 (777)	52.68 (1338)	3.75 (95)	3.98 (101)	103.8
		3	575	10	83.27 (2115)	30.60 (777)	52.68 (1338)	3.75 (95)	3.98 (101)	103.8
45S100-25	634	3	460	10	89.18 (2265)	30.60 (777)	58.59 (1488)	3.75 (95)	3.98 (101)	107.7
		3	575	10	89.18 (2265)	30.60 (777)	58.59 (1488)	3.75 (95)	3.98 (101)	107.7



E= Maximum diameter of pump including cable guard and motor.

Notes:
 Control box is required for 3-wire, single-phase applications. Data does not include control box.
 Performance conforms to ISO 9906. 1999 (E) Annex A. Minimum submergence is 2 feet.

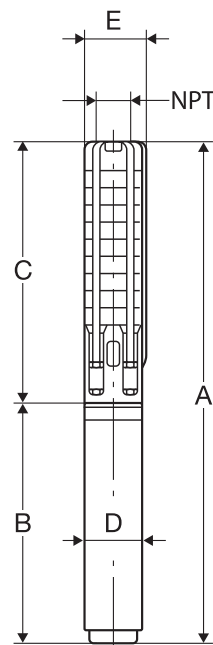
SPECIFICATIONS (continued)

4" and larger wells

SP 45S (45 gpm)/6 inch motor

45S - Motor dia. 6 inch, 60 Hz, rated flow 45 gpm (2" NPT)

Pump Model	Nom. Head (ft.)	Ph	Volts (V)	Motor (Hp)	Dimensions in. (mm)					Net Weight (complete) (lb.)
					A	B	C	D	E	
45S75-15	379	3	208-230	7.5	64.89 (1648)	23.51 (597)	41.38 (1051)	5.50 (140)	5.50 (140)	114.4
			460	7.5	64.89 (1648)	23.51 (597)	41.38 (1051)	5.50 (140)	5.50 (140)	114.4
			575	7.5	64.89 (1648)	23.51 (597)	41.38 (1051)	5.50 (140)	5.50 (140)	114.4
45S75-18	455	3	208-230	7.5	70.79 (1798)	23.51 (597)	47.29 (1201)	5.50 (140)	5.50 (140)	118.3
			460	7.5	70.79 (1798)	23.51 (597)	47.29 (1201)	5.50 (140)	5.50 (140)	118.3
			575	7.5	70.79 (1798)	23.51 (597)	47.29 (1201)	5.50 (140)	5.50 (140)	118.3
45S100-22	558	3	208-230	10	79.85 (2028)	24.69 (627)	55.16 (1401)	5.50 (140)	5.50 (140)	130.2
			460	10	79.85 (2028)	24.69 (627)	55.16 (1401)	5.50 (140)	5.50 (140)	130.2
			575	10	79.85 (2028)	24.69 (627)	55.16 (1401)	5.50 (140)	5.50 (140)	130.2
45S100-25	634	3	208-230	10	85.75 (2178)	24.69 (627)	61.07 (1551)	5.50 (140)	5.50 (140)	134.1
			460	10	85.75 (2178)	24.69 (627)	61.07 (1551)	5.50 (140)	5.50 (140)	134.1
			575	10	85.75 (2178)	24.69 (627)	61.07 (1551)	5.50 (140)	5.50 (140)	134.1
45S150-28	711	3	208-230	15	94.02 (2388)	27.05 (687)	66.97 (1701)	5.50 (140)	5.50 (140)	160.6
			460	15	94.02 (2388)	27.05 (687)	66.97 (1701)	5.50 (140)	5.50 (140)	160.6
			575	15	94.02 (2388)	27.05 (687)	66.97 (1701)	5.50 (140)	5.50 (140)	160.6
45S150-31	788	3	208-230	15	99.93 (2538)	27.05 (687)	72.88 (1851)	5.50 (140)	5.50 (140)	164.7
			460	15	99.93 (2538)	27.05 (687)	72.88 (1851)	5.50 (140)	5.50 (140)	164.7
			575	15	99.93 (2538)	27.05 (687)	72.88 (1851)	5.50 (140)	5.50 (140)	164.7
45S150-34	864	3	208-230	15	105.83 (2688)	27.05 (687)	78.78 (2001)	5.50 (140)	5.50 (140)	168.8
			460	15	105.83 (2688)	27.05 (687)	78.78 (2001)	5.50 (140)	5.50 (140)	168.8
			575	15	105.83 (2688)	27.05 (687)	78.78 (2001)	5.50 (140)	5.50 (140)	168.8
5S150-37	941	3	208-230	15	111.74 (2838)	27.05 (687)	84.69 (2151)	5.50 (140)	5.50 (140)	172.9
			460	15	111.74 (2838)	27.05 (687)	84.69 (2151)	5.50 (140)	5.50 (140)	172.9
			575	15	111.74 (2838)	27.05 (687)	84.69 (2151)	5.50 (140)	5.50 (140)	172.9
45S200-40DS	1018	3	208-230	20	131.82 (3348)	29.61 (752)	102.21 (2596)	5.50 (140)	5.50 (140)	230.8
			460	20	131.82 (3348)	29.61 (752)	102.21 (2596)	5.50 (140)	5.50 (140)	230.8
			575	20	131.82 (3348)	29.61 (752)	102.21 (2596)	5.50 (140)	5.50 (140)	230.8
45S200-43DS	1095	3	208-230	20	137.72 (3498)	29.61 (752)	108.12 (2746)	5.50 (140)	5.50 (140)	236.6
			460	20	137.72 (3498)	29.61 (752)	108.12 (2746)	5.50 (140)	5.50 (140)	236.6
			575	20	137.72 (3498)	29.61 (752)	108.12 (2746)	5.50 (140)	5.50 (140)	236.6
45S200-47DS	1197	3	208-230	20	145.60 (3698)	29.61 (752)	115.99 (2946)	5.50 (140)	5.50 (140)	244.2
			460	20	145.60 (3698)	29.61 (752)	115.99 (2946)	5.50 (140)	5.50 (140)	244.2
			575	20	145.60 (3698)	29.61 (752)	115.99 (2946)	5.50 (140)	5.50 (140)	244.2
45S200-51DS	1299	3	208-230	20	153.47 (3898)	29.61 (752)	123.86 (3146)	5.50 (140)	5.50 (140)	251.9
			460	20	153.47 (3898)	29.61 (752)	123.86 (3146)	5.50 (140)	5.50 (140)	251.9
			575	20	153.47 (3898)	29.61 (752)	123.86 (3146)	5.50 (140)	5.50 (140)	251.9



E= Maximum diameter of pump including cable guard and motor.

DS Versions

45S250-54DS	1376	3	208-230	25	161.54 (4103)	31.78 (807)	129.77 (3296)	5.50 (140)	5.50 (140)	267.6
			460	25	161.54 (4103)	31.78 (807)	129.77 (3296)	5.50 (140)	5.50 (140)	267.6
			575	25	161.54 (4103)	31.78 (807)	129.77 (3296)	5.50 (140)	5.50 (140)	267.6
45S250-57DS	1453	3	208-230	25	167.45 (4253)	31.78 (807)	135.67 (3446)	5.50 (140)	5.50 (140)	273.4
			460	25	167.45 (4253)	31.78 (807)	135.67 (3446)	5.50 (140)	5.50 (140)	273.4
			575	25	167.45 (4253)	31.78 (807)	135.67 (3446)	5.50 (140)	5.50 (140)	273.4
45S250-60DS	1529	3	208-230	25	173.35 (4403)	31.78 (807)	141.58 (3596)	5.50 (140)	5.50 (140)	279.1
			460	25	173.35 (4403)	31.78 (807)	141.58 (3596)	5.50 (140)	5.50 (140)	279.1
			575	25	173.35 (4403)	31.78 (807)	141.58 (3596)	5.50 (140)	5.50 (140)	279.1
45S250-63DS	1606	3	208-230	25	167.64 (4258)	31.78 (807)	135.87 (3451)	5.50 (140)	5.50 (140)	233.7
			460	25	167.64 (4258)	31.78 (807)	135.87 (3451)	5.50 (140)	5.50 (140)	233.7
			575	25	167.64 (4258)	31.78 (807)	135.87 (3451)	5.50 (140)	5.50 (140)	233.7

Notes:

Control box is required for 3-wire, single-phase applications. Data does not include control box.
 DS designation = Built into sleeve, 2" NPT, 6" minimum well diameter.
 Performance conforms to ISO 9906. 1999 (E) Annex A. Minimum submergence is 2 feet.