

SHUR-ALIGN® DROP PIPE



INSTALLING SUBMERSIBLE PUMPS IS NOW EASIER AND FASTER THAN EVER



THE SHUR-ALIGN® DROP PIPE'S PATENTED DESIGN HELPS YOU QUICKLY AND SAFELY INSTALL YOUR NEXT SUBMERSIBLE PUMP

The *Shur-Align* drop pipe has the longest inlet bell in the industry, funneling and aligning the pipe before the threads engage. This eliminates cross threading and speeds up the assembly process.

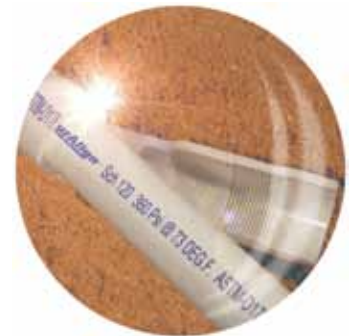
No coupling is required, reducing the possibility of leaks and assembly time. There is just one thread makeup versus the two required with standard couplings.

Johnson Screens is known around the world for top-quality products and service; the *Shur-Align* drop pipe is no exception, delivering clear and safe drinking water.

The entire joint - not just the coupling - is formed from schedule 120 PVC for maximum strength and durability, making installation of submersible pumps quicker and simpler.

Advantages of the *Shur-Align* drop pipe include:

- No couplings
- Simple alignment and engagement
- Beveled shoulder for easier pump service
- Quick makeup
- Watertight seal



RECOMMENDED MAXIMUM SETTING DEPTH VS. DISCHARGE PRESSURE FOR SCH 120 DROP PIPE

Nominal Pipe Size (in.)	OD (in.)	Min. Wall (in.)	Approx. Weight (lbs/ft)	ASTM Water Pressure Rating (psi)	Recommended Maximum Depth* (ft) vs. Discharge Pressure (psi) @ 8 fps				Pump HP for 50 psi, 8 fps & max. depth	8 fps Flow Rate (GPM)	Skid Quantity (ft)
					30 psi	40 psi	50 psi	60 psi			
1	1.315	0.200	0.45	360	590	570	550	530	5	16	3,300
1.25	1.660	0.215	0.63	300	510	490	470	450	5	30	2,080
1.5	1.900	0.225	0.75	270	470	450	430	410	8	41	1,800
2	2.375	0.250	1.03	240	420	400	380	360	10	69	2,100

* Caution should be used if flows are higher than 5 fps since turbulent flow and damaging surge pressures can result.

Our PVC materials are listed by NSF International and comply to NSF Standard 61, safe for use in potable water applications. ASTM Standard D1784, standard specification for rigid PVC compounds, uses a cell classification system to call out minimum physical property requirements (base resin, minimum impact strength, tensile strength modulus of elasticity, heat deflection temperature under load, and flammability when tested per applicable ASTM standards) of compounds that are used in the production of PVC pipe and fittings. Rigid PVC compound used for manufacture of pipe has a Cell Classification of 12454 per ASTM D1784 and is also known as Type I Grade I PVC, or PVC 1120.



FRICTION HEAD LOSS* (FT WATER/100 FT OF TUBING)

Flow (GPM)	1 in. Pipe	1.25 in. Pipe	1.5 in. Pipe	2 in. Pipe
	Sch 120	Sch 120	Sch 120	Sch 120
5	3.0	0.7	0.3	0.1
7	5.6	1.3	0.6	0.2
10	10.8	2.6	1.1	0.3
15	22.8	5.4	2.4	0.7
20	38.9	9.2	4.1	1.2
25	58.8	13.9	6.3	1.8
30	82.4	19.5	8.8	2.5
35	109.6	26.0	11.7	3.3
40	140.4	33.3	14.9	4.3
45	174.6	41.4	18.6	5.3
50	212.2	50.3	22.6	6.5
55	253.2	60.0	27.0	7.7
60	297.4	70.5	31.7	9.1

* Hazen-Williams Equation

- Water hammer suppressors, 100 psi pressure relief valves (placed within 30 ft of well head), torque arrestors and/or soft start controls are always recommended for PVC pipe (required for 40 HP or higher pumps).
- Drop pipe pump size is limited by the pump weight that the drop pipe can support at a particular well depth as long as all above recommendations are followed.
- Good system design will take into consideration appropriate outlet flow rates and pressures when selecting pump size.
- Information above only applies for Johnson Screens products stored, handled and installed correctly.
- Contact your local Johnson Screens rep for higher or lower pressures and other different system design conditions.

PVC PIPE BEHAVIOR AT DIFFERENT TEMPERATURES*

Temperature (F°)	40.0	50.0	60.0	70.0	73.4	80.0	90.0	100.0	110.0	120.0	130.0	140.0
Temperature (C°)	4.0	10.0	16.0	21.0	23.0	27.0	32.0	38.0	43.0	49.0	54.0	60.0
Conversion Factor	1.4	1.3	1.15	1.04	1	0.88	0.75	0.62	0.51	0.4	0.31	0.22

* Source: Plastic Pipe and Fittings Association

PVC pipe exhibits decreasing pressure rating and stiffness with increasing temperature. As with dimensions, the pressure ratings and published pipe stiffness figures for PVC pipe are listed at an operating temperature of 73°F.

To determine the pressure ratings and stiffness of PVC pipe at higher or lower temperatures, multiply the pressure rating or pressure class and the stiffness/deflection by the pipe's de-rating factors at the temperature.

An example of a table of PVC pipe de-rating factors is shown above. Consult the manufacturer of your pipe for specific data. The typical upper limit for continuous use of PVC pipe is 140°F.

Best Practices

- Keep head loss in pump column pipe between 5 and 8 ft per 100 ft of pipe
- Use the table to the left to select the diameter of Shur-Align® drop pipe for your application
- Torque arrestors are recommended in all submersible pump installations

Assembly Tips:

- Apply a good quality non-petroleum pipe paste sealant approved for PVC, to each thread joint
- Do not preassemble pipe lengths. Assemble one length at a time in a vertical position
- Tighten joints 1 to 2 turns beyond finger tight. **DO NOT OVER TIGHTEN!**
- Avoid using tools which may gouge or damage PVC; this can lead to premature failure
- Contact us for free PVC handling and storage instructions, and to receive a copy of our *Shur-Align* Design Program

Providing over 100 years of experience,
innovation and customer satisfaction.
Contact us today.



OUR WIDE RANGE OF PRECISION ENGINEERED EQUIPMENT IS SUITABLE FOR MORE APPLICATIONS THAN EVER.

Turn to Johnson Screens® to help maximize your operational efficiency and find long-term, trouble-free solutions. Discover our ever-expanding range of products, designed with your needs in mind:

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- Frontages
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- Furniture
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- Sun-control screens
- Custom lighting
- Wall partitions

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- Pressure screens

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- Centrifuge baskets
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- Spray Nozzles
- HDPE Pipes
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- Rubber screening systems
- Mill liners & Rubber ceramic wear liners
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- Laterals
- Distributor trays
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- Passive Intake screens
- In-line self-cleaning filters
- Nozzles
- Triton® underdrain systems
- Fish diversion screens
- Collectors/distributors
- Resin traps
- Precoat filters
- Milliscreen®
- Suboscreen®
- Stepscreen
- Centre-Flo Screen

WATER WELL

- Well screens (stainless steel and PVC)
- Riser pipes
- Sand spears
- Environmental monitoring screens
- Drilling fluid
- Nu-Well® rehabilitation chemicals

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A Weatherford Company

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