

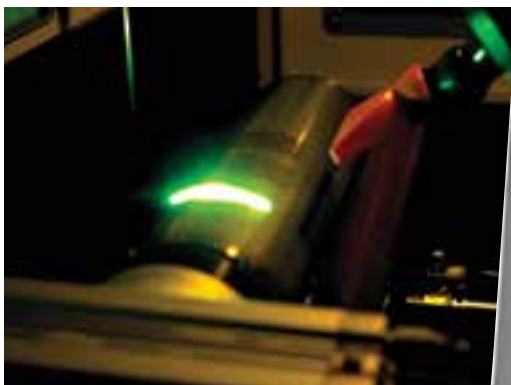
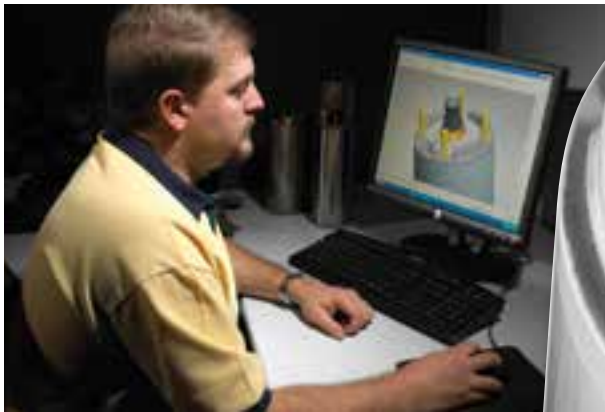
# 4" Submersible Motors XE-SERIES

For high-thrust water well applications

1/2 – 5 HP, Single Phase, 2 & 3 Wire, 115V and 230V, 60 Hz

1/2 – 10 HP, Three Phase, 3 Wire, 200V, 230V, 460V and 575V, 60 Hz

Pentek® offers a complete line of XE Series 4" Submersible High-Thrust Motors. Built with the latest design, manufacturing, and testing technology, they feature laser-welded 304L stainless steel construction, higher-thrust capacities and higher efficiencies.



# XE-SERIES

## Engineered EPOXY STATOR Design

The Pentek® XE Series submersible motors utilize a 304L stainless steel “encapsulated, epoxy stator design,” and professional-grade Class F insulation providing longer life in harsh environments. Each motor is 100% factory pressure and run tested to support our high quality standards.

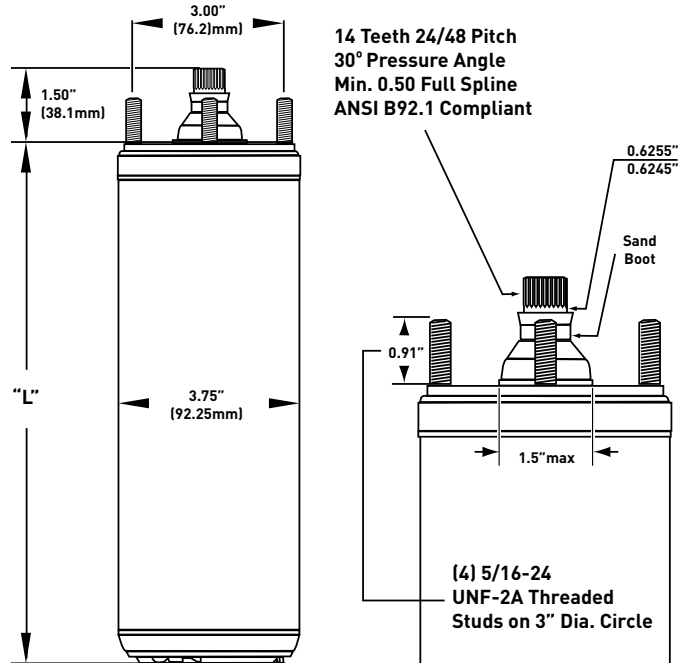
## Features

Pentek submersible motors are unique in providing the industry with innovative and robust design features that will extend the life of your installation:

- ▶ Oversized Kingsbury-type Thrust Bearing Design—Large high-performance bearings are standard on all HPs allowing for higher thrust loads, providing many years of trouble-free service under severe-duty operation
- ▶ 2-Wire Permanent Split Capacitor Design insures quiet operation and improved operating efficiency
- ▶ 3-Wire Motors operate with Pentek SMC-CR, VIP Pro and Pentek Intellidrive™ products
- ▶ All Stainless Steel Exterior
- ▶ Professional-Grade Class F-Compliant Motor Insulation – Allows for longer service life
- ▶ 100% Factory Pressure and Run Tested
- ▶ Automatic Thermal Protection on 2-wire designs to 1-1/2 HP models and 3-wire designs to 1 HP single-phase
- ▶ All 115V and 230V motors are equipped with surge arrestors to provide maximum protection against lightning, transient and voltage surge conditions

Technical data can be found on page 8

## Mounting Configuration



## Materials of Construction

PARTS	MATERIALS
End Bell	304L cast stainless steel, rounded bottom
Shell	304L stainless steel, laser-welded to end bells
Motor Shaft	17-4 precipitation hardened SS
Insulation	Class F, 311°F (155°C)
Max. Water Temp.	86°F (30°C)
Fasteners	304-grade stainless steel
Lip Seal	Nitrile
Sand Boot	Nitrile
Cable	Field-serviceable, controlled compression design UL, CSA, NSF approved
Cable Length	48" - 1/2 HP to 1-1/2 HP; 100" - 2 HP and above
Diaphragm	EPDM
Thrust Bearings	Kingsbury-type, pivot shoe, carbon graphite mating ring
Thrust Load Capacity	Varies by rating. See table on page 8

Consult Pentek Electronics Manual for high-temperature applications

# 4" Submersible Motors XE-SERIES

Innovations focused on dependable performance

## Capacitor

- ▶ Patented encapsulated toroidal capacitor on 2-wire motor design provides smoother, noise-free operation without the need for a control box
- ▶ Lower starting current with both main and start windings engaged at all times



## Motor End Bells & Shell

- ▶ Upper & lower 304L stainless steel (SS) end bells are designed for 100% corrosion-resistance and durability
- ▶ Rounded bottom on lower end bell reduces well casing interference
- ▶ Upper 304L SS end bell is designed with internal cord entry feature
- ▶ Motor shell is constructed of 304L SS tubing, with a laser-etched nameplate and warning label



## Motor Leads

- ▶ Replaceable lead is held in place by 2 screws for controlled compression
- ▶ Each lead is tested twice to 250 PSI
- ▶ UL, CSA, NSF approved



## Kingsbury-type Thrust Bearings

- ▶ Large high-performance bearings are standard on all HPs, allowing higher thrust loads, for many years of trouble-free service under severe-duty operation
- ▶ Stainless steel pivot shoe is securely positioned over the carbon graphite disk for even load disbursement



# XE-SERIES

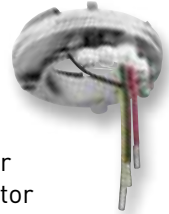


## Class F Insulation

- ▶ Professional-grade Class F-compliant motor insulation allows for longer service life and more reliable motor operation

## Surge Arrestors

- ▶ Surge arrestors are mounted within the upper end bell
- ▶ Design provides each conductor circuit with its own surge arrestor
- ▶ Designed to optimize clamping voltage, energy absorption/dissipation and response time



## Drive Shaft

- ▶ 17-4 precipitation hardened stainless steel shaft with precision finished bearing surfaces
- ▶ NEMA standard mounting and shaft height

## Sand Slinger

- ▶ Provides ultimate protection against sand and grit intrusion
- ▶ Stamped stainless steel upper cover is designed to prevent sand entry



# 4" Submersible Motors

For high-thrust water well applications — 1/2 - 10 HP, single- and three-phase

XE SERIES PERFORMANCE																	
MOTOR TYPE	CATALOG NUMBER	RATING					SERVICE FACTOR	FULL LOAD AMPS	MAX. LOAD (SF LOAD) AMPS	WINDING		LOCKED ROTOR AMPS	LENGTH		WEIGHT		THRUST RATING
		HP	KW	VOLTS	HZ	MAIN RESISTANCE				START RESISTANCE	IN		MM	LB	KG		
PSC 2-WIRE	P42B0005A1	1/2	0.37	115	60	1.6	7.4	9.5	1.3-1.8		36.4	11.0	279	19.2	8.7	700	
	P42B0005A2	1/2	0.37	230	60	1.6	3.7	4.7	4.5-5.2		19.5	11.0	279	19.2	8.7		
	P42B0007A2	3/4	0.55	230	60	1.5	5.0	6.4	3.0-4.8		24.8	12.4	314	22.7	10.3		
	P42B0010A2	1	0.75	230	60	1.4	7.9	9.1	4.2-5.2		21.7	13.3	337	24.5	11.1		
	P42B0015A2	1 1/2	1.1	230	60	1.3	9.2	11.0	1.9-2.3		42.0	14.9	378	28.9	13.1		
	P42B0005A1-01	1/2	0.37	115	60	1.6	7.9	9.8	1.4-2.0		28	10.5	267	18.1	8.2		
	P42B0005A2-01	1/2	0.37	230	60	1.6	4.0	4.7	6.1-7.2		16	10.5	267	18.1	8.2		
	P42B0007A2-01	3/4	0.55	230	60	1.5	5.0	6.2	5.9-6.9		18	11.9	302	21.4	9.7		
	P42B0010A2-01	1	0.75	230	60	1.4	6.7	8.1	4.2-5.2		24	12.5	318	23.2	10.5		
P42B0015A2-01	1 1/2	1.1	230	60	1.3	9.0	10.4	1.8-2.4		44	14.2	361	27.3	12.4			
							Y/B/R	Y/B/R									
CSIR 3-WIRE	P43B0005A1	1/2	0.37	115	60	1.6	11.0/11.0/0	12.6/12.6/0	0.9-1.6	5.7-7.0	49.6	10.0	253	18.9	8.6	700	
	P43B0005A2	1/2	0.37	230	60	1.6	5.5/5.5/0	6.3/6.3/0	4.2-4.9	17.4-18.7	22.3	9.7	246	18.1	8.2		
	P43B0007A2	3/4	0.55	230	60	1.5	7.2/7.2/0	8.3/8.3/0	2.6-3.6	11.8-13.0	32.0	10.8	275	21.4	9.7		
	P43B0010A2	1	0.75	230	60	1.4	8.4/8.4/0	9.7/9.7/0	2.2-3.2	11.3-12.3	41.2	11.7	297	23.1	10.5		
	P43B0005A1-01	1/2	0.37	115	60	1.6	8.8/8.8/0	10.9/10.9/0	1.0-1.4	2.5-3.1	44	9.6	244	17.9	8.1		
	P43B0005A2-01	1/2	0.37	230	60	1.6	5.3/5.3/0	6.1/6.1/0	5.1-6.1	12.4-13.7	21	9.2	234	16.7	7.6		
	P43B0007A2-01	3/4	0.55	230	60	1.5	6.6/6.6/0	7.8/7.8/0	2.6-3.3	10.4-11.7	32	10.3	262	19.8	9.0		
	P43B0010A2-01	1	0.75	230	60	1.4	8.1/8.1/0	9.4/9.4/0	2.0-2.6	9.3-10.4	41	11.2	284	22.0	10.0		
CSCR 3-WIRE	P43B0005A2	1/2	0.37	230	60	1.6	4.1/4.1/2.2	4.9/4.4/2.1	4.2-4.9	17.4-18.7	22.3	9.7	246	18.1	8.2	900	
	P43B0007A2	3/4	0.55	230	60	1.5	5.1/5.0/3.2	6.3/5.6/3.1	2.6-3.6	11.8-13.0	32.0	10.8	275	21.4	9.7		
	P43B0010A2	1	0.75	230	60	1.4	6.1/5.7/3.3	7.2/6.3/3.3	2.2-3.2	11.3-12.3	41.2	11.7	297	23.1	10.5		
	P43B0015A2	1 1/2	1.1	230	60	1.3	9.7/9.5/1.4	11.1/11.0/1.3	1.6-2.3	7.9-8.7	47.8	13.6	345	27.4	12.4		
	P43B0020A2	2	1.5	230	60	1.25	9.9/9.1/2.6	12.2/11.7/2.6	1.6-2.2	10.8-12.0	49.4	15.1	383	31.0	14.1		
	P43B0030A2	3	2.2	230	60	1.15	14.3/12.0/5.7	16.5/13.9/5.6	1.1-1.4	2.0-2.5	76.4	18.3	466	40.0	18.1		
	P43B0050A2	5	3.7	230	60	1.15	24/19.1/10.2	27.0/22.0/10.0	0.62-0.76	1.36-1.66	101.0	27.7	703	70.0	31.8		
	P43B0005A2-01	1/2	0.37	230	60	1.6	4.2/4.1/1.8	4.8/4.3/1.8	5.1-6.1	12.4-13.7	21	9.2	234	16.7	7.6		
	P43B0007A2-01	3/4	0.55	230	60	1.5	4.8/4.4/2.5	6.0/4.9/2.3	2.6-3.3	10.4-11.7	32	10.3	262	19.8	9.0		
	P43B0010A2-01	1	0.75	230	60	1.4	6.1/5.2/2.7	7.3/5.8/2.6	2.0-2.6	9.3-10.4	41	11.2	284	22.0	10.0		
	P43B0015A2-01	1 1/2	1.1	230	60	1.3	9.1/8.2/1.2	10.9/9.4/1.1	2.1-2.5	10.0-10.8	49	12.8	325	26.0	11.8		

SEVERE DUTY - XE SERIES PERFORMANCE																
MOTOR TYPE	CATALOG NUMBER	RATING					FULL LOAD AMPS (Y/B/R)	MAX. LOAD (SF LOAD) AMPS (Y/B/R)	WINDING		LOCKED ROTOR AMPS	LENGTH		WEIGHT		THRUST RATING
		HP	KW	VOLTS	HZ	SERVICE FACTOR			MAIN RESISTANCE	START RESISTANCE		IN	MM	LB	KG	
CSCR 3-WIRE	P43S0020A2	2	1.5	230	60	1.25	9.9/2.6/9.1	12.2/2.6/11.7	1.6-2.2	10.8-12.0	49.4	19.3	491	47.0	21.3	900
	P43S0030A2	3	2.2	230	60	1.15	14.3/5.7/12.0	16.5/5.6/13.9	1.1-1.4	2.0-2.5	76.4	22.3	567	53.0	24.0	
	P43S0050A2	5	3.7	230	60	1.15	24/10.2/19.1	27/10.0/22.0	0.62-0.76	1.36-1.66	101.0	28.6	726	74.0	33.6	

# XE-SERIES

XE SERIES PERFORMANCE															
MOTOR TYPE	CATALOG NUMBER	RATING				SERVICE FACTOR	FULL LOAD AMPS	MAX. LOAD (SF LOAD) AMPS	LINE TO LINE RESISTANCE OHMS	LOCKED ROTOR AMPS	LENGTH		WEIGHT		THRUST RATING
		HP	KW	VOLTS	HZ						IN	MM	LB	KG	
3-PHASE	P43B0005A8	1/2	0.37	200	60	1.6	2.9	3.4	4.1-5.2	22	10	254	18.9	8.6	700
	P43B0005A3	1/2	0.37	230	60	1.6	2.4	2.9	5.72-7.2	17.3	10	254	18.9	8.6	
	P43B0005A4	1/2	0.37	460	60	1.6	1.3	1.5	23.6-26.1	9	10	254	18.9	8.6	
	P43B0007A8	3/4	0.55	200	60	1.5	3.8	4.5	2.6-3.0	32.0	10.8	274	21.4	9.7	
	P43B0007A3	3/4	0.55	230	60	1.5	3.3	3.9	3.3-4.3	27	10.8	274	21.4	9.7	
	P43B0007A4	3/4	0.55	460	60	1.5	1.7	2.0	14.4-16.2	14	10.8	274	21.4	9.7	
	P43B0010A8	1	0.75	200	60	1.4	4.6	5.5	3.4-3.9	29.0	11.7	297	23.1	10.5	
	P43B0010A3	1	0.75	230	60	1.4	4.0	4.7	4.1-5.1	26.1	11.7	297	23.1	10.5	
	P43B0010A4	1	0.75	460	60	1.4	2.2	2.5	17.8-18.8	13.0	11.7	297	23.1	10.5	
	P43B0015A8	1 1/2	1.1	200	60	1.3	6.3	7.2	1.9-2.5	40.0	11.7	297	23.1	10.5	
	P43B0015A3	1 1/2	1.1	230	60	1.3	5.2	6.1	2.8-3.4	32.4	11.7	297	23.1	10.5	
	P43B0015A4	1 1/2	1.1	460	60	1.3	2.8	3.2	12.3-13.1	16.3	11.7	297	23.1	10.5	
	P43B0015A5	1 1/2	1.1	575	60	1.3	2	2.4	19.8-20.6	11.5	11.7	297	23.1	10.5	
	P43B0020A8	2	1.5	200	60	1.25	7.5	8.8	1.4-2.0	51.0	13.8	351	27.4	12.4	900
	P43B0020A3	2	1.5	230	60	1.25	6.5	7.6	1.8-2.4	44.0	13.8	351	27.4	12.4	
	P43B0020A4	2	1.5	460	60	1.25	3.3	3.8	8.00-8.67	23.0	13.8	351	27.4	12.4	
	P43B0020A5	2	1.5	575	60	1.25	2.7	3.3	9.4-9.7	21.4	15.3	389	32	14.5	
	P43B0030A8	3	2.2	200	60	1.15	10.9	12.0	0.9-1.3	71.0	15.3	389	32	14.5	
	P43B0030A3	3	2.2	230	60	1.15	9.2	10.1	1.3-1.7	58.9	15.3	389	32	14.5	
	P43B0030A4	3	2.2	460	60	1.15	4.8	5.3	5.9-6.5	30.0	15.3	389	32	14.5	
	P43B0030A5	3	2.2	575	60	1.15	3.7	4.1	9.4-9.7	21.4	15.3	389	32	14.5	
	P43B0050A8	5	3.7	200	60	1.15	18.3	20.2	0.4-0.8	113.0	21.7	551	55	24.9	1500
	P43B0050A3	5	3.7	230	60	1.15	15.7	17.5	0.85-1.25	93.0	21.7	551	55	24.9	
	P43B0050A4	5	3.7	460	60	1.15	7.6	8.5	3.58-4.00	48.0	21.7	551	55	24.9	
	P43B0050A5	5	3.7	575	60	1.15	7.0	7.6	3.6-4.2	55.0	27.7	703	70	31.8	
	P43B0075A8	7 1/2	5.6	200	60	1.15	27.0	30.0	0.5-0.6	165.0	27.7	703	70	31.8	
	P43B0075A3	7 1/2	5.6	230	60	1.15	24.0	26.4	0.55-0.85	140.0	27.7	703	70	31.8	
	P43B0075A4	7 1/2	5.6	460	60	1.15	12.2	13.5	1.9-2.3	87.0	27.7	703	70	31.8	
P43B0075A5	7 1/2	5.6	575	60	1.15	9.1	10.0	3.6-4.2	55.0	27.7	703	70	31.8		
P43B0100A4	10	7.5	460	60	1.15	15.6	17.2	1.8-2.2	110.0	30.7	780	78	35.4		

SEVERE DUTY - XE SERIES PERFORMANCE															
MOTOR TYPE	CATALOG NUMBER	RATING				SERVICE FACTOR	FULL LOAD AMPS	MAX. LOAD (SF LOAD) AMPS	LINE TO LINE RESISTANCE OHMS	LOCKED ROTOR AMPS	LENGTH		WEIGHT		THRUST RATING
		HP	KW	VOLTS	HZ						IN	MM	LB	KG	
3-PHASE	P43S0030A3	3	2.2	230	60	1.15	9.2	10.1	1.3-1.7	58.9	19.3	491	47	21.3	900
	P43S0030A4	3	2.2	460	60	1.15	4.8	5.3	5.9-6.5	30.0	19.3	491	47	21.3	
	P43S0050A3	5	3.7	230	60	1.15	15.7	17.5	.85-1.25	93.0	22.6	573	59	26.8	1500
	P43S0050A4	5	3.7	460	60	1.15	7.6	8.5	3.58-4.00	48.0	22.6	573	59	26.8	
	P43S0075A3	7 1/2	5.6	230	60	1.15	24.0	26.4	0.55-0.85	140.0	28.6	726	74	33.6	
	P43S0075A4	7 1/2	5.6	460	60	1.15	12.2	13.5	1.9-2.3	87	28.6	726	74	33.6	
	P43S0100A4	10	7.5	460	60°	1.15	15.6	17.2	1.8-2.2	110	31.6	802	80	36.3	





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