

NORTH FLORIDA POOLS

9/21/2020

WOMBLE

MINIMUM FLOW REQ'D = 36 GPM

POOL VOLUME : SURFACE AREA X AVG DEPTH X 7.48 GAL / CF

VOL = **315** SF X **4.5** FT DEEP **10602.9** Gallons

TURNOVER TIME: No. Hours X 60 min / hour =

6 hours x 60 = **360** minutes

MAX POOL FLOW RATE: GALLONS / TURNOVER = FLOW RATE

10602.9 GAL / **360** minutes = **29.4525** GPM**POOL FEATURES**JETS, SHEER DE **1** WATER FEATUREGPM EA = **100** GPMTOTAL SUGGESTED POOL FLOW RATE: **129.45** GPMV = 1.318 C R^{0.63} S^{0.54}**SUPPLY (RETURN) PIPING****3** in = NOMINAL DIAMETER**3.04** in = D ACTUAL diam**0.2535** ft = D diam**140** = C, coefficient of roughness**7.2679** in² = A pipe**0.0505** ft² = A pipe**126.00** gpm / line **0.2807487** cfs**126.00** gpm = TOTAL FLOW IN 1 LINES**0.2807** cfs = Q flow rate**5.5625** f/sec = V = Velocity**0.0634** ft = R = Hydraulic Radius = A / P**0.0382** ft/ft = S hydraulic gradient**24** ft = pipe length average**0.92** ft = hf = head loss due to friction**0.40** psi **0.0039639****SUCTION PIPING****2.5** in = NOMINAL DIAMETER**2.45** in = D ACTUAL diam**0.2038** ft = D diam**140** = C, coefficient of roughness**4.6951** in² = A pipe**0.0326** ft² = A pipe**63.00** gpm = **0.1403743** cfs**2** No of Suction Pipes**0.1404** cfs = Q flow rate**4.3053** f/sec = V = Velocity**0.0509** ft = R = Hydraulic Radius = A / P**0.0306** ft/ft = S hydraulic gradient**34** ft = pipe length average**1.04** ft = hf = head loss due to friction**0.45** psi **0.0045084****PUMP CURVE CALCULATIONS**

FLOW TOT HEAD LOSS FT PSI

GPM FT PSI

40.4 **17.502077****BRANCH PIPING FLOW RATES****2** in @ 6 fps max BRANCH = **61.54** GPM**2** in @ 8 fps max TRUNK = **82.06** GPM**2** in @ 10 fps max RETURN = **102.57** GPM**3** in @ 3 fps max RETURN = **67.95** GPM MAIN

DRAIN

140.00**54.4****23.55****160.00****73.9****31.99****OTHER PRESSURE LOSSES**

per mnfg

22.80 FT = FILTER TDH LOSS**10.77** FT = HEATER TDH LOSS**33.57** FT = TOTAL TDH LOSS**MINOR LOSSES (SUPPLY & SUCTION COMBINED)**h (lost) = KL * V² / (2*g)

K

h (lost) ft

2 ea = # tees thru side outlet**1.75****1.68****2** ea = # gate valves**1****0.96****1** ea = # check valves**0.2****0.10****0** THERAPY JET**21.73****0.00****0** ea = # 45 deg ELL**0.4****0.00****6** ea = # 90 deg ELL**0.75****2.16****0** ea = Reducer D2=**0.5** **0.0871791****0.00**D1/D2= **6.084****TOTAL =****4.90** ft**ELEVATION DIFFERENCE****0.00** ft = delta Z**0.00** FT = TOTAL FRICTION HEAD LOSS AFTER SPLIT @ LOOP**40.43** FT = TOTAL HEAD LOSS IN SYSTEM @ **126.00** GPM**17.50** PSIPUMP SELECTION: **JANDY VSFHP270JEP**model: **VARIABLE SPEED**

SUCTION OUTLET COVER:

MUST EXCEED**126.00** GPM FLOW RATE

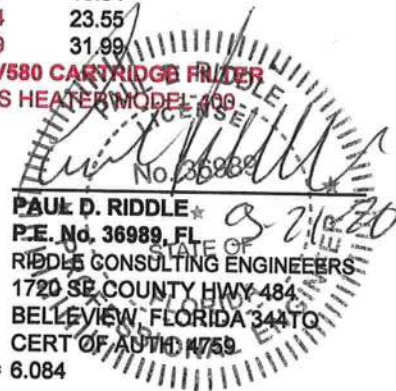
model

32" CHANNEL DRAIN OR 2 OUTLET COVERS

SYSTEM FLOW RATE MUST NOT EXCEED APPROVED COVER FLOW RATE

PER FBC 2017 6TH EDITION ANSI / APSP 10

MOTOR TO BE GFCI PROTECTED PER NEC 680.21©

O.K.

VS FLOPRO 2.70 HP VARIABLE-SPEED PUMP



Save up to 90% on energy costs with the VS FloPro 2.7 HP Variable-Speed Pump²

VS FloPro is designed to save you money. Its variable-speed motor allows for dramatic energy savings, especially when operated at lower speeds. In addition, its innovative adjustable base allows for simple installation on new construction, or quick and easy replacement of existing pumps.

» Ultra high-efficiency motor

Features a totally enclosed fan-cooled (TEFC) permanent magnet brushless DC motor for cooler operation and extended motor life.

» Quiet

Advanced motor design allows VS FloPro to run at energy-saving lower speeds for significantly quieter operation.

» Digital controller included³

Two timed speeds/eight speeds total. Remotely mounted controller provides easy access to pump controls. Reliable battery backup ensures time and settings are stored during power outages.



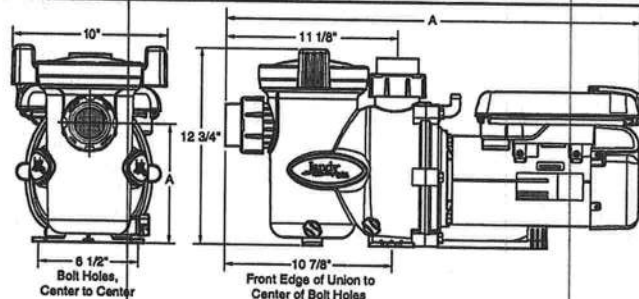
WOMBLE POOL
North FL Pools

PROFESSIONAL ENGINEERS, INC.
1720 S.E. County Highway 484
Bellevue, FL 34420
(352) 245-7041 Fax (352) 245-5458
Certificate of Authorization: 00004759

BASE CONFIGURATIONS

Config.	Model No.	Base Incl.?	Lines Up to
No base required	VSFHP270JEP	Y	Hayward® Super Pump® Pentair® SuperFlo® Sta-Rite® SuperMax®
	VSFHP270AUT	Y	
Small base	VSFHP270JEP	Y	Hayward Super II® Jandy Pro Series Plus HP & Max HP
	VSFHP270AUT	N	
Small base w/spacers	VSFHP270JEP	Y	Pentair WhisperFlo® Sta-Rite® Dyna-Glas
	VSFHP270AUT	N	
Small base+ large base ⁴	VSFHP270JEP	Y	Sta-Rite Max-E-Pro® Sta-Rite Dura-Glas® Sta-Rite Dura-Glas II, Sta-Rite Max-E-Glas®
	VSFHP270AUT	N	

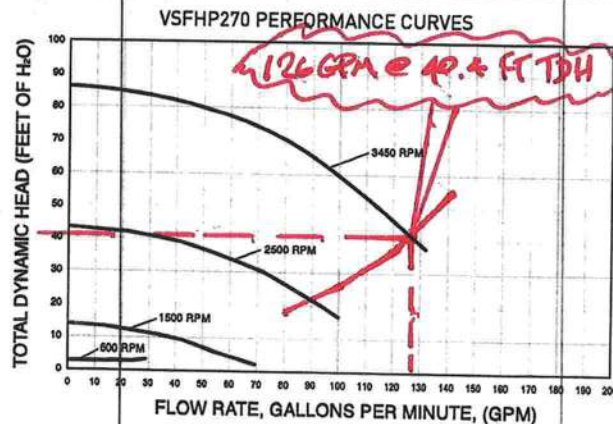
DIMENSIONS



SPECIFICATIONS

Model No.	Total Horsepower	Voltage	Max Watts	Recommended Pipe Size ²	Carton Weight	Overall Length
VSFHP270JEP	2.7	208-230 VAC	2,400 W	2½-3"	56.0 lbs	27½"
VSFHP270AUT ³	2.70	208-230 VAC	2,400 W	2½-3"	56.0 lbs	27½"

PERFORMANCE



- ¹ Up to 70% quieter than traditional single-speed pumps.
- ² Actual savings dependent on pump horsepower, usage and energy costs.
- ³ Does not include adjustable bases or user interface. Intended for use with AquaLink RS, AquaLink PDA, or AquaLink Z4 control systems.
- ⁴ Optional: Part # R0546400
- ⁵ Always follow local building and safety codes for pipe sizing and guidelines.



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Zodiac Pool Systems Canada, Inc.
2115 South Service Road West, Unit #3, Oakville, ON L6L 5W2
1.888.647.4004 | www.ZodiacPoolSystems.ca