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Message from Mr. L&B

Summer is almost here and our vertical turbine production is strong. Current orders represent a wide range of applications from corrosion resistant seawater fire pumps, abrasive resistant heavy duty river pumps, high pressure booster pumps, to storm water & flood control low lift pumps.

We regularly develop quotes that are far from standard construction. Most recently was a quote for an application requiring 3500 gpm @ 1100 ft TDH! Our ability to provide special construction to meet various applications makes Layne / Verti-Line stand out in the industry.

Switching gears, we’ve received a lot of RFQ’s for replacement pumps. Many pumps that have been operating for decades are now being reviewed for servicing. Thus customers are searching for help from local factory representatives. The oldest job I recently had a call on was for a set of Verti-Line pumps installed at Grand Coulee Dam Power Plant. The pumps have been in operation since 1939, and are still going!

There are two points to obtain here. First, we have a strong history of providing long operational life, which makes an excellent selling point to stay with Layne / Verti-Line. Second, many applications that were installed around the middle of the 20th century are now being pulled for repair or replacement. This provides an excellent opportunity for distributors to sole source their customer’s needs.

On this note, you’ll find our Technical Q&A is aimed to help distributors identify many of the old Layne & Bowler and Verti-Line pumps that may be found in the field.

Website Updates

With the vast number of existing installations, there is a strong need for readily available information such as operation & maintenance manuals, performance curves, and exploded parts illustrations. If you've visited our website, you'll notice every couple months we add new information to help customers identify their installations. Most recently, we've added a number of cutsheets representing the old Layne & Bowler Memphis construction. Some of the discharge head cutsheets will complement the tech article on page 3 in this newsletter.

Firepump Engine Prices

Clarke has just released new prices on their firepump engines. These prices will take effect on all orders starting July 1st, 2007. Vertical turbine electronic estimate sheets are currently being updated and will be emailed in the very near future. If you are an Aurora firepump distributor and would like to receive the latest electronic price estimate sheets, please send an email to:

Carolyn Crews
carolyn.crews@pentairwater.com

Cut Sheets - Layne & Bowler, Inc. - Memphis, TN

Bowl Assembly
[4R 6DR and 6RK Hydraulically Balanced](#)
[15DR 17DRO & 18RK 18G 19G](#)
[22G, 24G & 30G 19G, 32SK, 36B, 38H, 42RK & 44C](#)
[36G](#)

Column Assembly
[Threaded Column](#)
[Flanged Column](#)
[Keyed Lineshaft Coupling](#)

Head Assembly
[WL Head TF Head RF Head](#)
[SDH Head TL Head](#)

Shaft Sealing Assembly
[RNL Stuffing Box](#)
[STB Stuffing Box](#)
[HPSB High Pressure Stuffing Box](#)
[Style 60 Tube Tension Assembly](#)
[Style 60 Water Flushed Tube Tension Assembly](#)
[John Crane Type 21 Mechanical Seal](#)
[SBX Stuffing Box](#)

Driver *(coming soon!)*

Date **October 1995**
 Supersedes **May 1994**

Section **2180** Page **3307**
ENGINEERING data
DISCHARGE HEAD

CAST IRON - SDH HEAD 4" - 12"

Note: Line Dimensions shown unless certified by factory

Cast Iron - SDH Head 4" - 12"

4" Size & Rating ANSI Flange Head Discharge Flange - Hub - Straddle Vertical

4 R. Holes on P.B.C. 2.5 See NPS RXL Coverings

STANDARD HEAD BASE

4.1/8" Holes on K.C.C.

OPTIONAL SEPARATE BASE PLATE

MODEL	SIZE	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	STANDARD	(1) 1/16"
SDH4C	4	10.51	16.125	8	8	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	
SDH6C	6	16.125	21.75	10	10	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
SDH8C	8	21.75	27.375	12	12	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	
SDH10C	10	27.375	33	14	14	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
SDH12C	12	33	38.625	16	16	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	

(1) Size may be drilled to maximum 1/2" size 1/2" in flange.

Section **2180** Page **3404**
 Date **May 1994**
ENGINEERING data
STUFFING BOX

RNL STUFFING BOX (7/8 thru 2-7/16 shafts)

Standard Ports

Reverse Ports

PART	PART NAME	QTY	OPTIONAL
1	STUFFING BOX	1	
2	STUFFING BOX GASKET	1	
3	STUFFING BOX GASKET	1	
4	STUFFING BOX GASKET	1	
5	STUFFING BOX GASKET	1	
6	STUFFING BOX GASKET	1	
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8	STUFFING BOX GASKET	1	
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11	STUFFING BOX GASKET	1	
12	STUFFING BOX GASKET	1	
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49	STUFFING BOX GASKET	1	
50	STUFFING BOX GASKET	1	

SECTIONAL DRAWING
 17 DRO, 18 RK SHORT COUPLED BOWLS
 ENCLOSED LINE SHAFT
 FLANGED DISCHARGE CONV.

SECTION: 4100
 DRWG. NO. 8511-R14A
 DATE: Rev. 11/20/99
 SUPERSEDES:

PART	PART NAME	QTY	OPTIONAL
1	DISCHARGE CONVEYOR	1	
2	DISCHARGE CONVEYOR GASKET	1	
3	DISCHARGE CONVEYOR GASKET	1	
4	DISCHARGE CONVEYOR GASKET	1	
5	DISCHARGE CONVEYOR GASKET	1	
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49	DISCHARGE CONVEYOR GASKET	1	
50	DISCHARGE CONVEYOR GASKET	1	

SECTIONAL DRAWING
 LAYNE OPEN LINE SHAFT COLUMN
 8 x 2-3/16 THRU 12 x 2-7/16

SECTION: 509
 DRWG. NO. 8511-080
 DATE: Rev. 11/94
 SUPERSEDES: 08/11

PART	PART NAME	QTY	OPTIONAL
1	SHAFT COLUMN	1	
2	SHAFT COLUMN GASKET	1	
3	SHAFT COLUMN GASKET	1	
4	SHAFT COLUMN GASKET	1	
5	SHAFT COLUMN GASKET	1	
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48	SHAFT COLUMN GASKET	1	
49	SHAFT COLUMN GASKET	1	
50	SHAFT COLUMN GASKET	1	

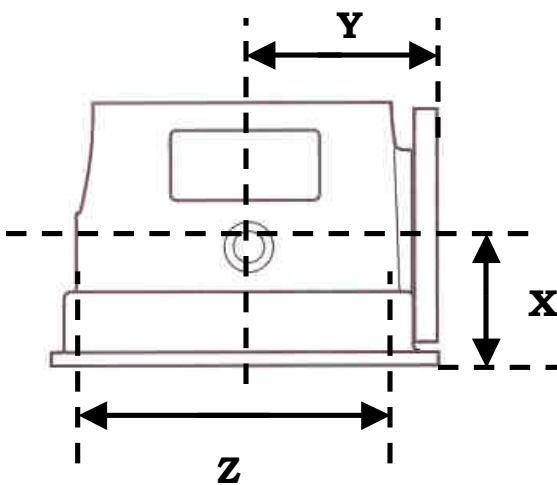
Technical Q&A

Question: Are there drop-in replacements for existing L&B or Verti-Line pump without changing the discharge piping or anchor bolts?

This is a common question, but unfortunately each application has a different answer. Fabricated heads typically are not a problem because they can be custom built to match specific centerline (CL) up & out and base dimensions. Cast heads are more difficult to match because each model has its own set of dimensions, which hinders interchangeability. For this discussion, we will focus on four of the most common heads found in the field: Verti-Line's AC head, and Layne Memphis WL, TF, and SDH heads.

The critical dimensions to compare for interchangeability are:

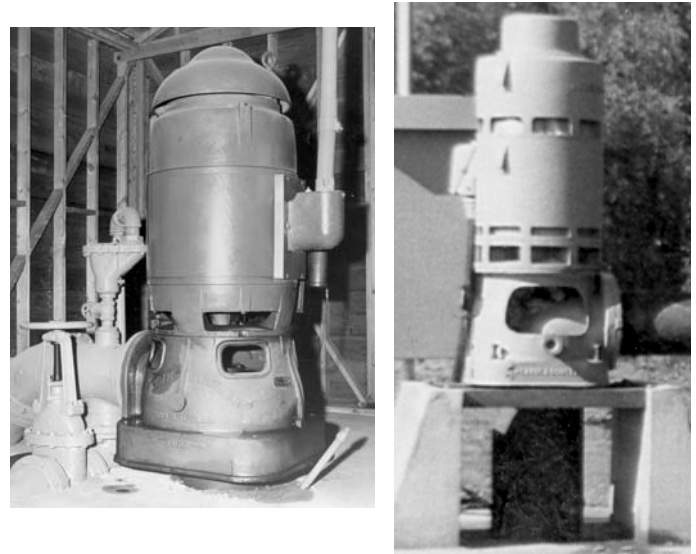
- 1) The distance from the bottom of the head to centerline of discharge (X)
- 2) The distance from the vertical centerline to the flange face (Y)
- 3) The distance between anchor bolts (Z)



The following is a summary of each head with these critical dimensions for the various discharge sizes that were manufactured.

Verti-Line AC Head

Developed in the late 40's after World War II, Verti-Line's Armorclad (AC) line became the top selling cast head for the next four decades. With discharge sizes ranging from 3" to 16", and optional 250# flange ratings, the AC head easily found its way into municipal, industrial, agricultural, and firepump markets. These heads are short by design and employ a one piece head/drive shaft. A high ring base could be provided for two piece head/drive shaft or allow room for coupling to a vertical solid shaft motor. Early heads had four small access windows while later heads had two large access windows. The AC head was discontinued in the late 80's after Layne & Bowler in Memphis bought Verti-Line.



Model	X (in)	Y (in)	Z (in)
10X3	3 ½	6	10
10AC6	7	7	10 ½
12AC8	8	9	13
17AC8	11	8	17
17AC10	10	11	17
20AC10	10	13	20
2025AC10	10	13	20
20AC12	12	13	20
2025AC12	12	13	20
25AC12	12	17	24
25AC14	13	16	25
31AC16	17	21	32

Layne WL Head

The WL head came from Western Pump Company, which was bought by Layne & Bowler in 1962. The “Wel-Line” label was created to serve the Agricultural market, and incorporated the best features of both Layne and Western. Pump discharge sizes ranged from 6” to 12”, and only a 125# flange was available. With Verti-Line and Layne & Bowler under one roof after 1986, the WL head was offered to Verti-Line customers as the “LB” head. Very similar in both appearance and dimensions to Verti-Line’s old AC head, consequently production of the AC head discontinued. Only the 25AC14 continued and was sold as the 25WL14.



Model	X (in)	Y (in)	Z (in)
12WL6	6 7/8	7 1/16	10 1/2
18WL8	8	11	17
18WL10	10	11 1/8	17
20WL12	12	13	20
25WL14	13	16	25

Layne TF Head

Layne Memphis had its own head that was comparable in success to Verti-Line’s AC head. The TF head was developed in 1940 and offered with 4” to 14” discharge sizes in both 125# and 250# ratings. Heavy duty in design, its primary intent was for deep well pumps. Because of its rugged construction, it also found its way into municipal and industrial applications. With a production run spanning over 50 years, the TF is arguably the most popular head from Layne & Bowler Memphis.



Model	X (in)	Y (in)	Z (in)
TF413	6	11	14.14
TF413-17	6	11	14.14
TF613	6	11	14.14
TF613-17	6	11	14.14
TF618	6	14 1/4	17.32
TF818	7 1/8	14 1/4	17.32
TF825	8 1/8	18 1/4	23.69
TF1018	8 1/8	14 1/4	17.32
TF1025	8 1/8	18 1/4	23.69
TF1218	9 5/8	16 1/4	19.62
TF1225	9 5/8	18 1/4	23.69
TF1425	10 5/8	18 1/4	23.69



Layne SDH Head

In the late 50's, Layne developed the SDH (Stress-Designed Pump Head), which had the benefit of a round base for mounting to a suction can. Discharge sizes ranged from 2" to 12" in both 125# and 250# ratings. The integral motor stand allowed the stuffing box to be replaced without removing the motor. A shorter version of this head was available, called the SDHS, but was discontinued in the late 60's or early 70's. The SDH head easily found its way into industrial, firepump, and municipal markets. After Layne and Verti-Line merged in 1986, the SDH head was branded over to Verti-Line as the VLH head. Though production discontinued in 1998, plans are to reintroduce the head because of its benefit for use with canned booster pumps.

Model	X (in)	Y (in)	Z (in)
SDH210	5 ¼	7 ½	8.31
SDH310	5 ¼	7 ½	8.31
SDH412	6	9	10.08
SDH612	7	11 ½	13.26
SDH616	7	11 ½	13.26
SDH812	8 ½	13	15.03
SDH816	8 ½	13	15.03
SDH1018	11	15	17.68
SDH1225	11 ½	17	20.86



Contact Information

Layne & Bowler/ Verti-Line

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FAX (913) 748-4030

Website (all go to one site)

- www.laynevertiline.com
- www.vertiline.com
- www.laynebowler.com
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East, Canada, and Firepump

Eddie Fears
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Firepump Estimate Sheets

Carolyn Crews
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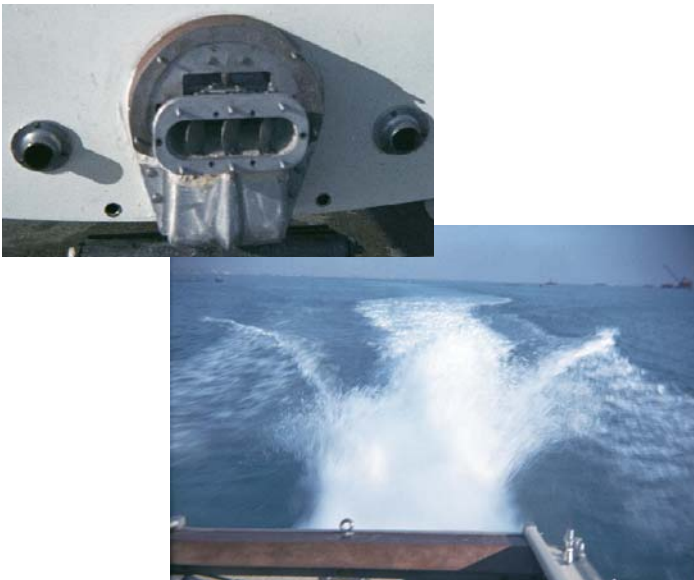


“BIG SQUIRT”

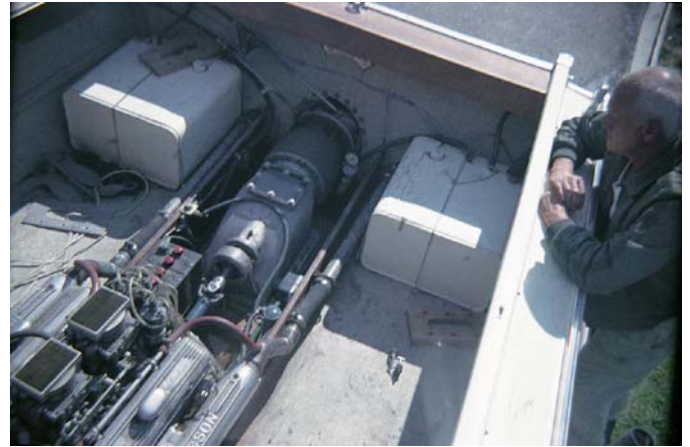
Chris Lula

Digging through old Verti-Line files one day, I ran across some unique boat pictures. I have to admit the small block Chevy with 2 x 4 barrel carburetors got my attention, but then I noticed it was driving a turbine bowl assembly. There was probably a story behind this boat, so I picked up the phone and called Tony Colca at John Lisee Pump in California. I knew Tony had worked at Verti-Line for a number of years and if anyone would know about this boat, it was he.

Turns out the boat was built by Ray Smith, who was the owner of Firestone Pattern Company. Firestone did all the pattern work for Verti-Line at that time. Ray designed the jet drive and cast the intake and discharge out of aluminum.



Providing the thrust was a Verti-Line 12FH bowl assembly powered by a Chevy 283 Hi-Po Corvette engine. Below is Walter McSweeney looking over the entire setup. Walter was manager of the foundry at Verti-Line.



The boat was a bit on the heavy side having a wooden hull, and only topped out at about 40 mph. It never fully got on plain due to the drive design. Testing was done at Long Beach Marina (note all the oil rigs in the horizon). The exact year of these pictures is unknown, but that's a 1960 Pontiac pulling the boat.



The whereabouts of this boat today is unknown. Adding to the mystery – there was a second boat built that was powered by a Chrysler 413 mated to a Verti-Line 14FH!