SCOT

MOTORPUMP™ — 2900 RPM
50 HERTZ, 2 X 2 X 5.5 NPT
VFE 17S

17S
TCV
VFE 17S

MOTOR DIMENSIONS
NEMA TCV FRAME 2900 RPM TEFC

HP	PHASE	FRAME	L	AB	O	H
1.5	3	TCV145	12.28	7.19	5.25	4.18
2.0	3	TCV145	13.15	7.19	5.25	4.18
3.0	3	TCV184	14.41	8.50	5.97	4.44
5.0	3	TCV215	16.16	10.24	7.46	6.23

OPTIONAL MOUNTING PLATE MP11

¾ DIA (4) — SPLIT ON CENTER LINE

SCOT

2 9/16 BORE

11 1/4
9 1/2
11 1/4
7 7/8
7 7/8
9/16
13/16

D1040   D017TCV184
019GSVFE   0172900

17S
TCV
VFE 17S
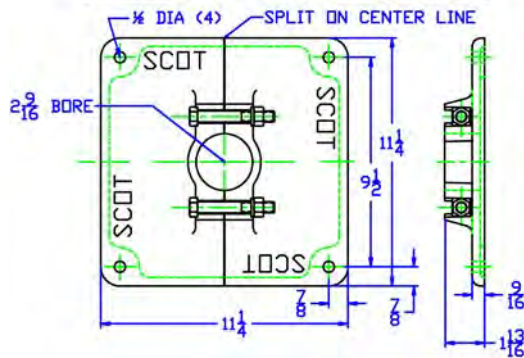
017S2900TCV
81.002.107   M19

D017TCV184   DRAWING DEPICTS 184TCV 5HP 3PHASE TEFC MOTOR

L — 15.15 — 2.63
9.05
5.13
2.0 DISCH NPT
1.00" HIGH LIQUID LEVEL
DIA
AB
H
2.56 DIA.
8.38 MIN. LIQUID LEVEL
3.26
8.62
3.75
2.0 SUCT NPT
LEAD HOLE
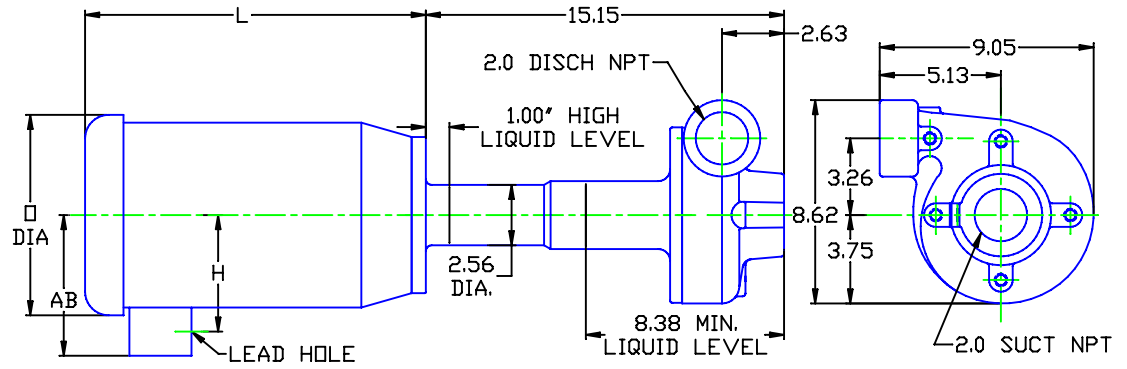
ALL DIMENSIONS IN INCHES.
DRAWING REPRESENTS APPROXIMATE PUMP DIMENSIONS. AUTOCAD DRAWING TO SCALE AVAILABLE FROM FACTORY.

PUMP 17S

TOTAL HEAD			PERFORMANCE CURVE	2900 RPM	1.0 S.G.
MTRS	PSI	FEET	NUMBER 40.000.508SE		70°F

50 Hz

PUMP SIZE: 2.0 x 2.0 x 5.5
IMP. TYPE: ENCLOSED
MAX. DIA.:   5.50
IMPELLER NO.:   C1151A
MAX. SPHERE: 11/32
PEIcl: EXEMPT

4-10-68

STD. IMPELLERS FOR ODP MOTORS

H.P.	DIA.
1.5	4.50
2.0	5.00
3.0	5.25
5.0	5.50

5.50
5.25
5.00
4.75
4.50

55 60 65 67 70
70
67
65
60
55
50

5 HP
3 HP
2 HP
1.5 HP

NPSH REQ.

NPSH FEET
15
10
5
0

U.S. GALLONS PER MINUTE	0	40	80	120	160	200	240
CUBIC METERS PER HOUR	0	9	18	27	36	45	54

50 Hertz Pump & Motor Data

A 3-phase 50 Hertz Motorpump™ can be obtained in several ways. The most common options are listed below:

1. Most 60 Hz pumps available from Scot Pump can be operated on a 3-phase 50 Hz 190/380V power. However, when operated on 50 Hz power, the speed is reduced by approximately 20%, and a significant reduction in performance is realized. The charts below indicate these reductions in performance.

2. Pumps will produce the performance indicated in the performance curves when operated on 50 Hz power. The motors for these selections can be obtained through *derated 60 Hz motors* and *wound 50 Hz motors*.

Contact factory for 1 Phase applications.

Derated 60 Hz Motors

The most common practice and readily available method of obtaining a 50 Hz motor is by using the next larger 60 Hz motor and derating it to the desired horsepower on 50 Hz. Many High Efficient motors can be operated on 50 HZ power without a reduction in horsepower. The motor manufacturers 60 HZ nameplate will remain intact. An "Alternate Motor Rating" nameplate indicating the reduced horsepower, RPM, volts, amps, and service factor will be affixed to the pump. In utilizing this practice, service factors may be derated to 1.0. The standard voltage is 190/380V and has a ±10% voltage variation. In addition, 200/400V and 208/416V may be available. Please contact the factory for approval of the rating for your specific application.

Wound 50 Hz Motors

Specially wound 50 Hz 220/380V six-lead Delta Wye motors are available. Most ratings offer a ±15% voltage variation. These motors are not normally a stock item and require an extended lead time.

The impeller and horsepower combination sized (taking the reduction in speed into consideration) may not be suitable for operation on 60 Hz power. The increase in speed, performance and load may overload the system and the electric motors. **Pumps sized for 50 Hz operation SHOULD NOT be tested on 60 Hz**.

60 Hz Pump on 50 Hz Power		
No Impeller Change		
50 Hz	*60 Hz*	*Factor*
GPM =	GPM x	0.829
Head =	Head x	0.687
BHP =	HP x	0.569

To Size 60 Hz Pump Using 50 Hz Data,		
Obtain 60 Hz Data As Follows:		
60 Hz	*50 Hz*	*Factor*
GPM =	GPM x	1.2
Head =	Head x	1.45
BHP =	HP =	$\dfrac{\text{GPM x Head x SG of}}{3960 \text{ x Eff}}$

Change of Speed (RPM)		
	How Varies:	**Examples**
GPM	Directly	Double RPM = (2)(RPM) = (2)(GPM) Triple RPM = (3)(RPM) = (3)(GPM)
Head	Square	Double RPM = (2)(RPM) = $(2)^2$ = (2)(2) = (4)(Head) Triple RPM = (3)(RPM) = $(3)^2$ = (3)(3) = (9)(Head)
BHP	Cube	Double RPM = (2)(RPM) = $(2)^3$ = (2)(2) (2)= (8)(BHP) Triple RPM = (3)(RPM) = $(3)^3$ = (3)(3)(3) = (27)(BHP)

Change of Impeller Diameter (Dia.)		
	How Varies:	**Examples**
GPM	Directly	Double Dia. = (2)(Dia.) = (2)(GPM) Triple Dia. = (3)(Dia.) = (3)(RPM)
Head	Square	Double Dia. = (2)(Dia.) = $(2)^2$ = (2)(2) = (4)(Head) Triple Dia. = (3)(Dia.) = $(3)^2$ = (3)(3) = (9)(Head)
BHP	Cube	Double Dia. = (2)(Dia.) = $(2)^3$ = (2)(2) (2) = (8)(BHP) Triple Dia. = (3)(Dia.) = $(3)^3$ = (3)(3)(3) = (27)(BHP)

VFE 17S • 316SS • TCV Frame • 2900 RPM
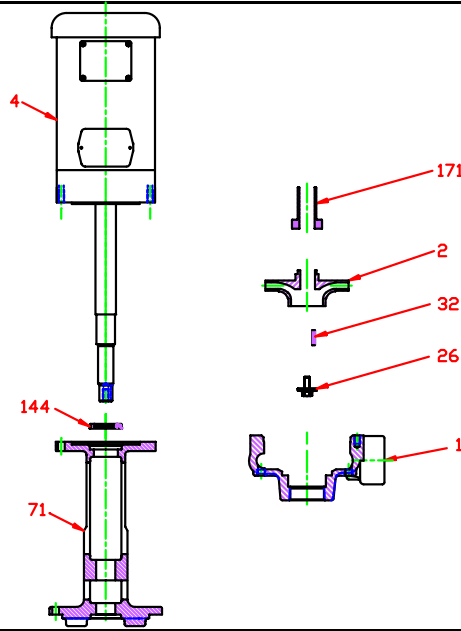
| KEY NO.	PART NAME	PUMP NO. 17S
1	CASE, 316SS, 2 x 2 NPT	130.000.265X
2	IMPELLER, 7/8" KEYED, ENCLOSED, SPECIFY DIAMETER:	
	316 STAINLESS STEEL	137.000.242
4	MOTOR, TCV140	See 60HZ Chart
26*	IMPELLER RETAINER, 316SS	118.000.111C
32*	KEY, 316SS	102.000.218
71	ADAPTER, 316SS	137.000.844
144*	LIP SEAL, BUNA	101.000.244
171*	THROTTLE BUSHING, 316SS	137.000.845
--	REPAIR KIT	118.000.564
	MOUNTING PLATE MP11S: (not shown)	118.000.554
--	MOUNTING PLATE, 316SS (2 REQ'D)	137.000.846
	CAP SCREW (2 REQ'D)	137.000.853
	WASHER (2 REQ'D)	137.000.854
	NUT (2 REQ'D)	105.000.251
* DENOTES COMPONENTS INCLUDED IN REPAIR KIT.		

E017TCV

A13   P017S2900TCV

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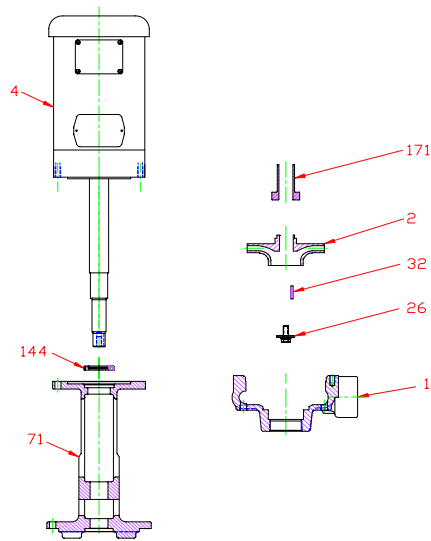
KEY NO.	PART NAME	STAINLESS
1	Case	316SS
2	Impeller	316SS
26	Impeller Retainer	316SS
32	Key	316SS
71	Adapter	316SS
144	Lip Seal	BUNA
171	Throttle Bushing	316SS
NS	Mounting Plate MP11S: (not shown)	316SS

E017TCV

F15   C017S2900TCV