

# SCOT

## MOTORPUMP™ — 2900 RPM 50 HERTZ, 2 x 1.5 x 5.5 NPT VFE 19GN

# 19GN

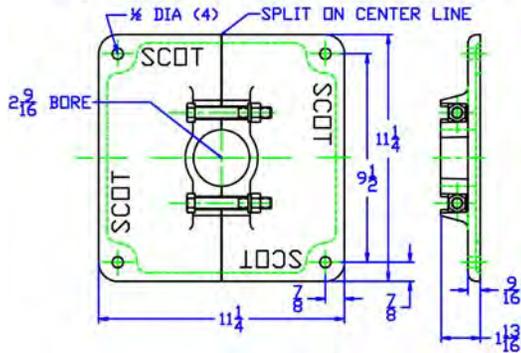
TCV  
VFE 19GN

### 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

1 HP motor is not available

#### OPTIONAL MOUNTING PLATE MP11



D1040  
019G07VFE

D019GNTCV184  
019N2900

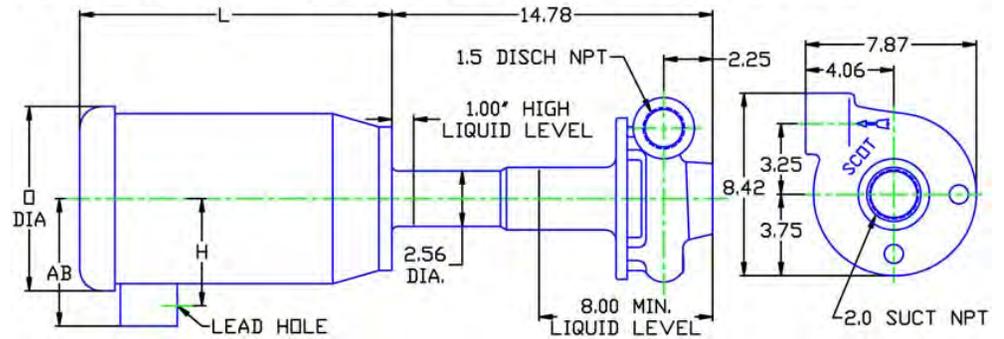
# 19GN

TCV  
VFE 19GN

019GN2900TCV  
081.001.547 M19

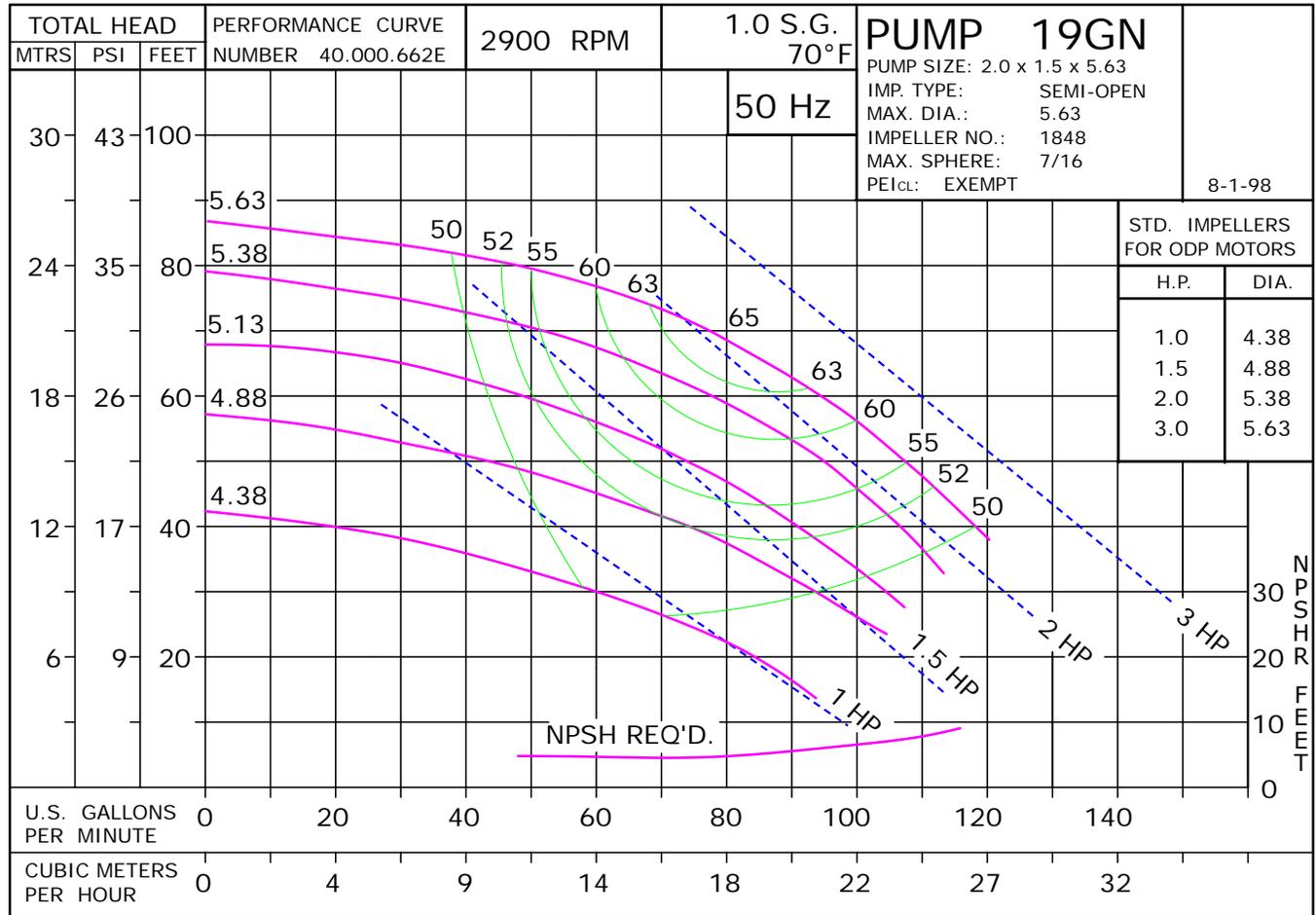
D019GNTCV184

DRAWING DEPICTS 184TCV 5HP 3PHASE TEFC MOTOR



ALL DIMENSIONS IN INCHES.

DRAWING REPRESENTS APPROXIMATE PUMP DIMENSIONS. AUTOCAD DRAWING TO SCALE AVAILABLE FROM FACTORY.



# 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

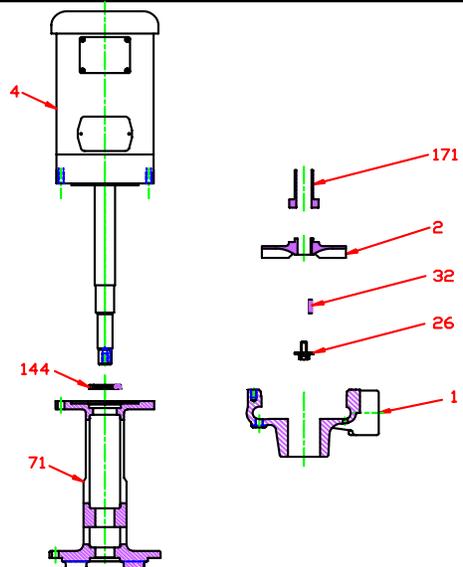
To Size 60 Hz Pump Using 50 Hz Data,		
Obtain 60 Hz Data As Follows:		
60 Hz	50 Hz	Factor
GPM =	GPM x	1.2
Head =	Head x	1.45
BHP =	HP =	$\frac{\text{GPM} \times \text{Head} \times \text{SG of}}{3960 \times \text{Eff}}$

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) <sup>2</sup> = (2)(2) = (4)(Head) Triple RPM = (3)(RPM) = (3) <sup>2</sup> = (3)(3) = (9)(Head)
BHP	Cube	Double RPM = (2)(RPM) = (2) <sup>3</sup> = (2)(2)(2) = (8)(BHP) Triple RPM = (3)(RPM) = (3) <sup>3</sup> = (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) <sup>2</sup> = (2)(2) = (4)(Head) Triple Dia. = (3)(Dia.) = (3) <sup>2</sup> = (3)(3) = (9)(Head)
BHP	Cube	Double Dia. = (2)(Dia.) = (2) <sup>3</sup> = (2)(2)(2) = (8)(BHP) Triple Dia. = (3)(Dia.) = (3) <sup>3</sup> = (3)(3)(3) = (27)(BHP)

**VFE 19GN • Iron • TCV Frame • 2900 RPM**



KEY NO.	PART NAME	PUMP NO. 19GN
1	CASE, IRON, 2 x 1.5 NPT	130.000.344X1
2	IMPELLER, 7/8" KEYED, SEMI-OPEN, SPECIFY DIAMETER: IRON	131.000.822
4	MOTOR, TCV140	See 60HZ Chart
26*	IMPELLER RETAINER, STAINLESS	118.000.111A
32*	KEY, STAINLESS	102.000.102
71	ADAPTER, IRON	132.000.290
144*	LIP SEAL, BUNA	101.000.244
171*	THROTTLE BUSHING, STEEL	110.000.348
--	REPAIR KIT	118.000.545
	MOUNTING PLATE MP11: (not shown)	118.000.329
	MOUNTING PLATE (2 REQ'D)	132.000.292
--	CAP SCREW (2 REQ'D)	105.000.457
	WASHER (2 REQ'D)	137.000.697
	NUT (2 REQ'D)	105.000.122

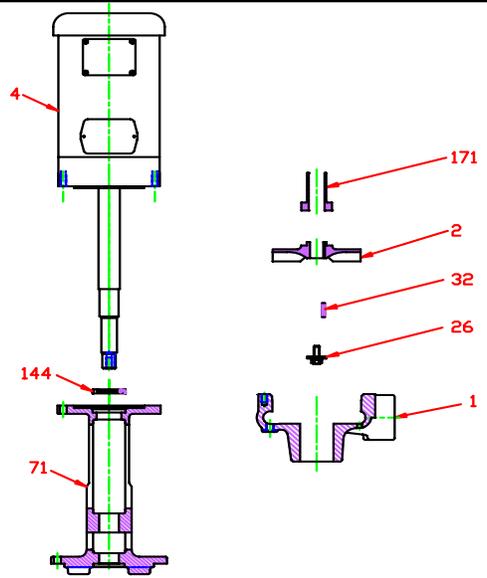
\* DENOTES COMPONENTS INCLUDED IN REPAIR KIT.

E019GTCV

A13

P019GN2900TCV

**VFE 19GN • Iron • TCV Frame • 2900 RPM**



KEY NO.	PART NAME	CAST IRON
1	Case	Iron
2	Impeller	Iron
26	Impeller Retainer	Stainless
32	Key	Stainless
71	Adapter	Iron
144	Lip Seal	BUNA
171	Throttle Bushing	Steel
NS	Mounting Plate MP11: (not shown)	Iron

E019GTCV

F15

C019GN2900TCV