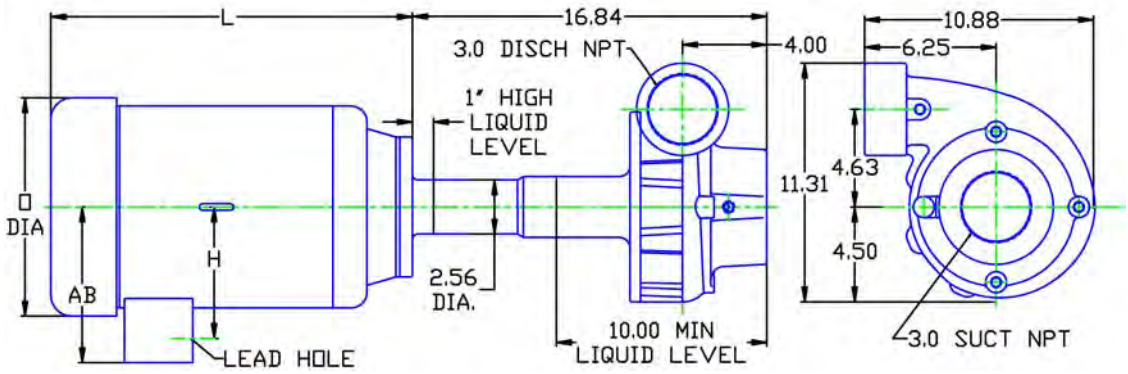
SCOT

MOTORPUMP™ — 2900 RPM
50 HERTZ, 3 X 3 X 6.5 NPT
VWE 56

MOTOR DIMENSIONS
NEMA TCV FRAME 2900 RPM TEFC

HP	PHASE	FRAME	L	AB	O	H
5.0	3	TCV215	16.16	10.24	7.46	6.23
7.5	3	TCV215	16.16	10.34	7.38	6.23
10	3	TCV215	17.19	10.34	7.38	6.23
15	3	TCV254	16.72	11.50	8.67	7.19
20	3	TCV256	19.63	13.26	9.49	7.99

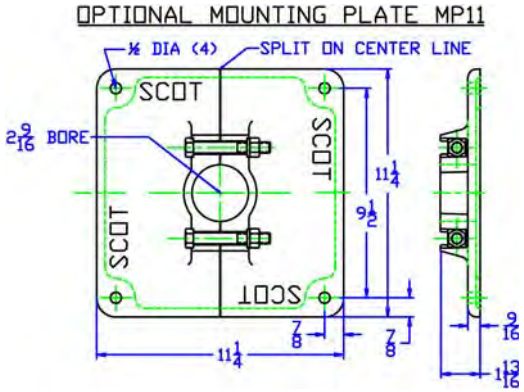
D056TCV215 DRAWING DEPICTS TCV215 15HP TEFC MOTOR



ALL DIMENSIONS IN INCHES.

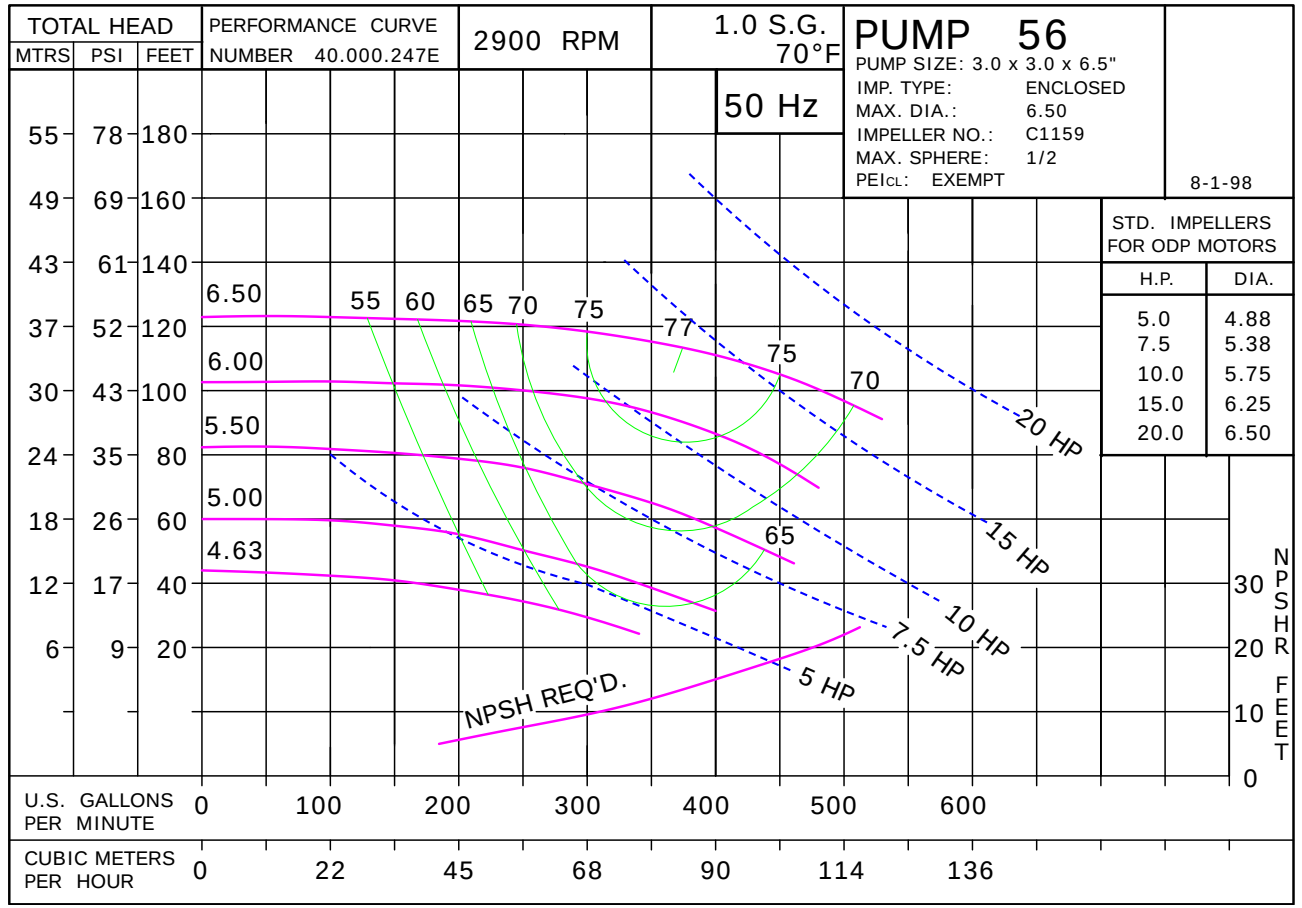
DRAWING REPRESENTS APPROXIMATE PUMP DIMENSIONS. AUTOCAD DRAWING TO SCALE AVAILABLE FROM FACTORY.

OPTIONAL MOUNTING PLATE MP11



D1040 05510VWE

D056TCV215 0562900



0562900TCV
81.001.556 M19

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***.

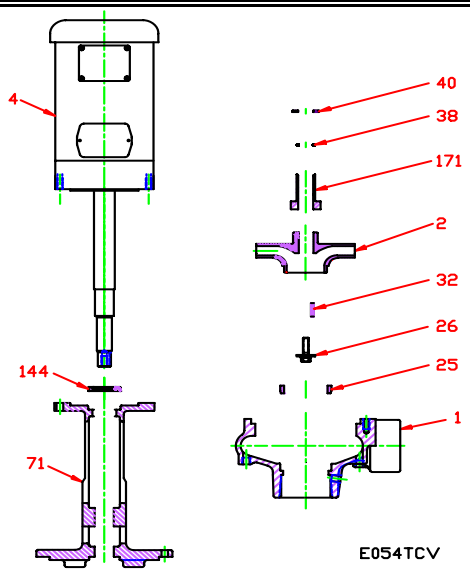
60 Hz Pump on 50 Hz Power No Impeller Change		
50 Hz	***60 Hz***	***Factor***
GPM =	GPM x	0.829
Head =	Head x	0.687
BHP =	HP x	0.569

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 =	$\frac{\text{GPM x Head x SG of}}{\text{3960 x Eff}}$

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)

VWE 56 • Iron • TCV Frame • 2900 RPM

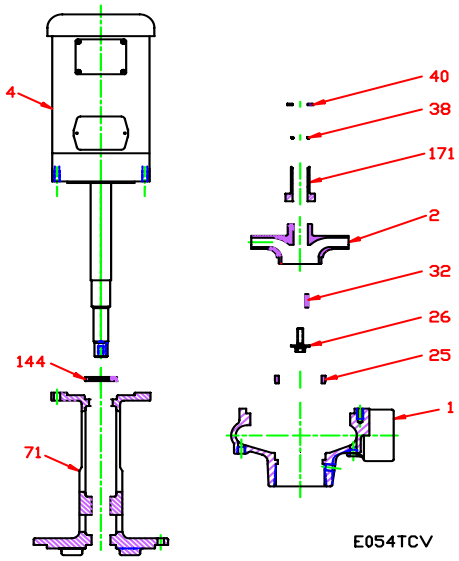


KEY NO.	PART NAME	SPEC SERIES‡	
		3190 OLD STYLE	3435 PRESENT STYLE
1+	CASE, IRON, 3 x 3 NPT	130.000.243X1	
2	IMPELLER, 7/8" KEYED ENCLOSED, SPECIFY DIAMETER:		
	IRON	131.000.809	
4	MOTOR, TCV140	See 60HZ Chart	
25	WEAR RING, STEEL	103.000.152	
26*	IMPELLER RETAINER, STAINLESS	† 118.000.163A	
32*	KEY, STAINLESS	† 102.000.102	
38*	O-RING, SHAFT, VITON	--	† 116.000.105
40*	FLINGER, STAINLESS	--	† 104.000.165A
71	ADAPTER, IRON	132.000.291	† 132.000.291B
144*	LIP SEAL, BUNA	† 101.000.244	
171*	THROTTLE BUSHING, STEEL	110.000.348	† 110.000.348C
--	REPAIR KIT	118.000.546	118.000.628
--	RETROFIT KIT CONVERTS OLD STYLE TO PRESENT	--	118.000.625
--	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.
\+ INCLUDES STEEL WEAR RING.
† DENOTES ITEMS INCLUDED IN RETROFIT KIT.
‡ SPEC SERIES 3190 WAS MANUFACTURED FROM 1984 THROUGH 01/13/04.
SPEC SERIES 3435 IS THE CURRENT CONSTRUCTION AS OF 01/14/04.

E054TCV

VWE 56 • Iron • TCV Frame • 2900 RPM



CONSTRUCTION OPTIONS		
KEY NO.	**PART NAME**	**CAST IRON**
1	Case	Iron
2	Impeller	Iron
25	Wear Ring	Steel
26	Impeller Retaining Assembly	Stainless
32	Key	Stainless
38	O-ring, Shaft	Viton
40	Flinger	Stainless
71	Adapter	Iron
144	Lip Seal	BUNA
171	Throttle Bushing	Steel
NS	Mounting Plate MP11: (not shown)	Iron

E054TCV