Monsanto COMPANY

LOCATION GROUND LEVEL

CENTRIFUGAL PUMP SPECIFICATION

PROJ/DEPT 811.00

EQUIP. IDENT NO. 2-423
AUTH NO. 1800 PLANT WGK
BY JP BLANKENSHIP DATE 4/9/68
APPD SHEET 1 OF 1

NAME BLOW TANK TRANSFER PUMP | NO. UNITS 1 | APPLIES TO ☐ PROPOSAL ☐ AS BUILT
PUMPED FLUID AROCLOR 1142

PUMPING CONDITIONS

PUMPING TEMPERATURE, PT 302 F | SPECIFIC GRAVITY @ PT 1.27 | VISCOSITY @ PT 1.4 cps (UNITS)
VAP PRESS. @ PT PSIA | CRYST POINT F | SOLIDS: TRACE % (WT); DENSITY ; SIZE
CORROSION/~~EROSION FACTORS BY~~ NEGLIGIBLE | ALLOWANCE IN.

PERFORMANCE CHARACTERISTICS

CAPACITY, USGPM @ PT: NORMAL 6 RATED 15 MINIMUM REQD
TDH, FEET: NORMAL 54 RATED 55 | DISCH PRESS., PSIG | SUCT PRESS., PSIG: RATED MAX
NPSH, FEET ABS: AVAIL. (NOR.) 28.4 (RAT.) | REQD (NOR.) (RAT.) | BY PUMP CURVE NO. A 50
BHP (NORMAL) 1.8 (RATED) (NON-OVERLOAD) 3.1 | EFFICIENCY, % (NORMAL) (RATED)

PUMP DESCRIPTION

TYPE | SIZE 3 x 1½ x 10 | RPM 1750 | ROTATION* ☒ CW ☐ CCW
CASING: NO. OF STAGES 1 | MOUNTING: ☐ CENTERLINE ☒ FOOT ☐ BRACKET ☐ VERTICAL
CASING SPLIT ☐ HORIZ ☐ VERTICAL | TYPE OF VOLUTE ☒ SINGLE ☐ DOUBLE ☐ DIFFUSER
SUCTION ☒ FLGD ☐ SCRD | SIZE 3 | 150 LB ASA | FACING | POSITION ☒ CL ☐ SIDE ☐ FACING UP
DISCHARGE ☐ FLGD ☐ SCRD | SIZE 1½ | 150 LB ASA | FACING | POSITION ☒ TOP CTR ☐ TANGENT ☐ SIDE
IMPELLER TYPE | DIAMETER, IN. (RATED) 7¼ (MAX) 10 (MIN, BY MFR) 6
☐ PACKING TYPE | SIZE | NO. RINGS | SEAL CAGE ☐ YES ☐ NO | MFR
☐ MECH SEAL, MFR AND MODEL CHESTERTON, 15 DIWI-INT | CLASS. CODE
BEARINGS (MFR AND TYPE): RADIAL SEALED FOR LIFE | THRUST SEALED FOR LIFE | (VERTICAL) THRUST ☐ UP ☐ DN
MATERIAL: CASING DUCTILE IRON | IMPELLER 316 SS | SHAFT/SLEEVE DC8
OTHER MATERIAL
CASING ☐ VENT NPT ☐ DRAIN NPT | GAGE CONN ☐ SUCTION ☐ DISCHARGE NPT
STUFF. BOX: ☐ TAP FOR FLUSH NPT; ☐ TAP FOR DRAIN NPT ☒ JACKETED NPT CONN; COOL. WATER REQD, GPM
COVER PLATE ☒ JACKETED NPT CONN | ☐ GLAND COOLING NPT | BEARING HOUSING ☐ JACKETED NPT
AUXILIARY PIPING BY MFR: FLUSHING: ☐ TUBING ☐ PIPE | JACKET(S) ☐ TUBING ☐ PIPE
PUMP BUILT TO ☒ AVS ☐ API STD 610 ☐ OTHER SPECIFICATIONS

DRIVER

☑ ELECTRIC MOTOR: NO. UNITS 1 (5HP) | EQUIP. NO(S). 423-001 | M. CO. SPEC. NO. (1)
☐ STEAM TURBINE: NO. UNITS | EQUIP. NO(S). | M. CO. SPEC. NO.
☐ OTHER: NO UNITS | EQUIP. NO(S). | M. CO. SPEC. NO.

ACCESSORIES

BASEPLATE ☒ PER M. CO. D14, 12 STD 10 (2) | BY VENDOR (BASEPLATE TO ACCOMODATE 7½ HP MOTOR)
COUPLING ☒ PER M. CO. STD | BY VENDOR (WOODS SPACER TYPE-SC6) | DRIVER HALF MTD BY VENDOR
CPLG GUARD ☐ PER M. CO. NONE STD | BY
ASSEMBLY, ALIGNMENT OF PUMP, DRIVER, CPLG BY VENDOR | DOWEL TO BASE ☐ YES ☒ NO
LUBRICATOR

SHOP TESTS	REQD	WITNESSED
RUNNING PERF		
NPSH		
DISASSEMBLY		
HYDROSTATIC PSIG		

AS-BUILT DATA

ACTUAL IMPELLER DIA. | PUMP SER NO(S).
OUTLINE DWG NO. | TEST CURVE NO.
SEAL DWG NO. | SECTIONAL DWG NO.
WR CLEARANCE, IN., DIA
MECHANICAL SEAL (PACKING) SHIPPED ☐ INSTALLED ☐ BOXED SEPARATELY

MAX ALLOW. WP CASE PSIG @ F | WEIGHTS, LB: PUMP DRIVER ASSY
ALLOWABLE RESULTANT NOZZLE LOADS – TO BE SUPPLIED BY VENDOR ☐ YES ☐ NO
SUCTION: FORCE, LBS ; MOMENT, LB FT | DISCH: FORCE, LBS ; MOMENT, LB FT

SPECIAL INSTRUCTIONS OR FEATURES

(1) MOTOR SPEC. IS NOTED ON PURCHASE ORDER.
(2) BASEPLATE WILL BE PAINTED IN ACCORDANCE WITH MONSANTO SPEC. K1.3STD604

VENDOR TO SUPPLY 304SS CATCH BASIN @ WET END OF PIPE

*Facing Coupling End.

REV NO.	REVISION	BY	DATE	APPD	DATE	VENDOR
1						
2						P. O. NO.
3						PRICE

ES 56 (7/67)

PCB-ARCH-EXT0372200

ADJUSTABLE MOUNTING BRACKET

This standard has been judged acceptable for interim CED use. It will be submitted for formal review and approval under procedures of the company-wide standards program. See "SOURCE" at bottom of page for origin of this standard.

1. SCOPE This Standard covers the selection and fabrication of a bolted adjustable base bracket for AVS pump bases.

2. DISCUSSION The development of this adjustable mounting bracket is a result of plant experience which has shown that pumps mounted on Goulds Pumps cast iron and structural channel bases or Duriron structural channel bases will operate satisfactorily even though the base is not bolted to a foundation. However, other factors which affect the operation of the pump must be carefully analyzed and considered due to the fact that the pump is not positively anchored.

This adjustable mounting bracket is intended to be used only where it will be more economical than a conventional concrete foundation or acid proof tile base. The following factors should be recognized when considering the use of this type support instead of a poured concrete foundation.

2.1 Advantages

(1) Lower installed cost where support slabs exist.
(2) Manufacturers' Standard bases can be made adjustable without creating delivery and production problems.
(3) Simplification of layout and construction. Leveling adjustment permits installation on slopes of ½"/ft (Max) and irregular surfaces.
(4) Eliminates penetration of anchor bolts through acid-proof floor surfaces.
(5) Better resistance to corrosion as compared to bare concrete under acid or alkaline conditions.
(6) Improved housekeeping through easier wash down and better floor drainage.

2.2 Limitations

(1) Cost of the adjustable bracket is approximately $25 greater than manufacturer's base.
(2) Cannot be set directly on surfaces not capable of supporting a concentrated load.
(3) Supporting slabs subjected to freezing must be laid on well-drained sub-soil and not subject to heaving.
(4) Support of connecting piping must be designed and installed to prevent tilt, "walking" or "see-saw" of pump and base. (This should be true of any pump installation, however.)

3. MATERIALS OF CONSTRUCTION

Support Crossbar	– Structural Quality Carbon Steel
Adjusting Jack Screws and Nuts	– Type 304 Stainless Steel
Jack Screw Lockwashers	– 18-8 Stainless Steel

4. FINISHES Stocking of "AVS" pump base adjustable mounting brackets will be simplified by specifying one finish which has a wide latitude of application in chemical plant environments. The standard finish for the carbon steel parts is Coal Tar Epoxy, Monsanto Coating Specification K1.3 Std 604. Pump base finishes should be included as part of the pump specification Form ES 56.

5. DESIGN AND CONSTRUCTION DETAILS When it has been decided to use the pump base adjustable mounting bracket, select the size required from Figure 1. All necessary dimensions and material specifications for the construction of adjustable mounting brackets are shown in Figure 1.

6. PROCUREMENT

6.1 Projects Requiring New Pumps The pump base adjustable mounting bracket may be ordered from the pump manufacturer, either with pump, motor and base mounted on the bracket or with the bracket shipped loose. Attachment of the bracket to the base in the field is a simple bolting operation.

Form ES 56, "Centrifugal Pump Specification" should be furnished to the pump manufacturer on which, under "Special Instructions or Features", it has been noted that the adjustable mounting bracket is desired.

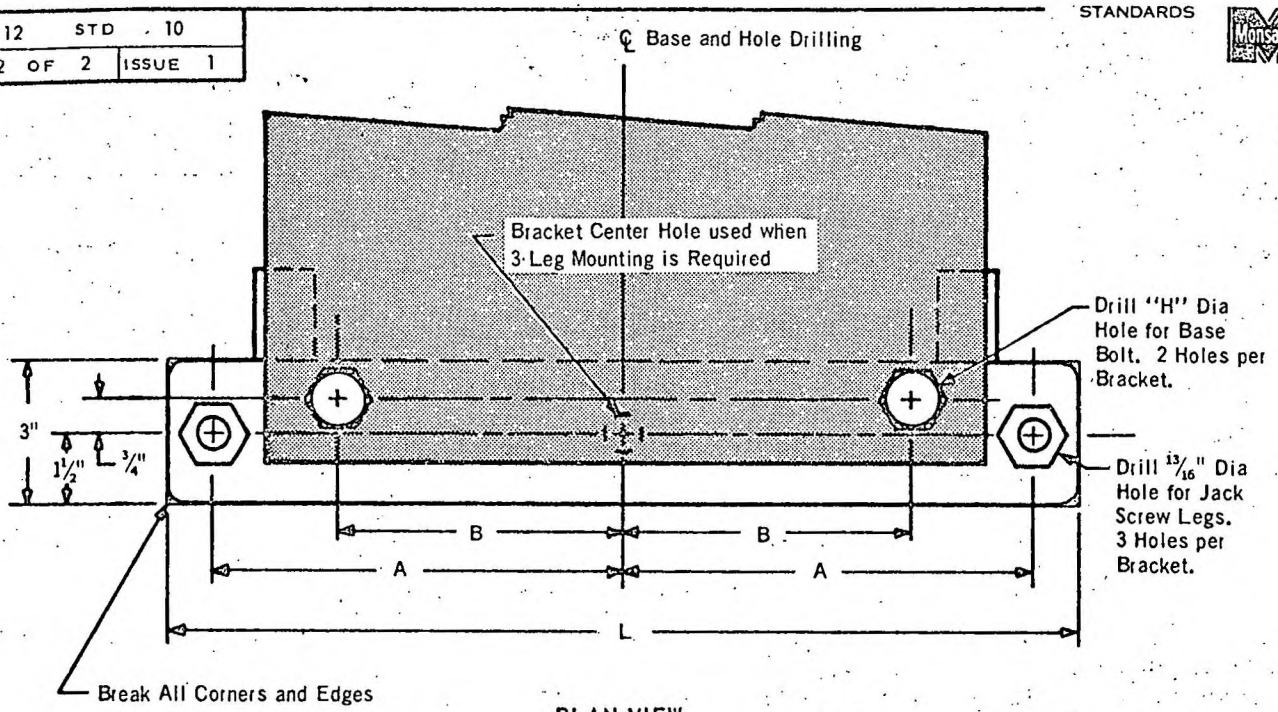
A copy of this standard and Painting Specification, K1.3 Std 604 should also be furnished.

6.2 Adjustable Mounting Brackets for Existing Pumps or Spare Stock The adjustable mounting bracket may be shop built or built by local fabricators. Dimensions for each size bracket are shown in Figure 1. A copy of this standard and K1.3 Std 604 should be forwarded to the Purchasing Department for transmittal to the fabricator.

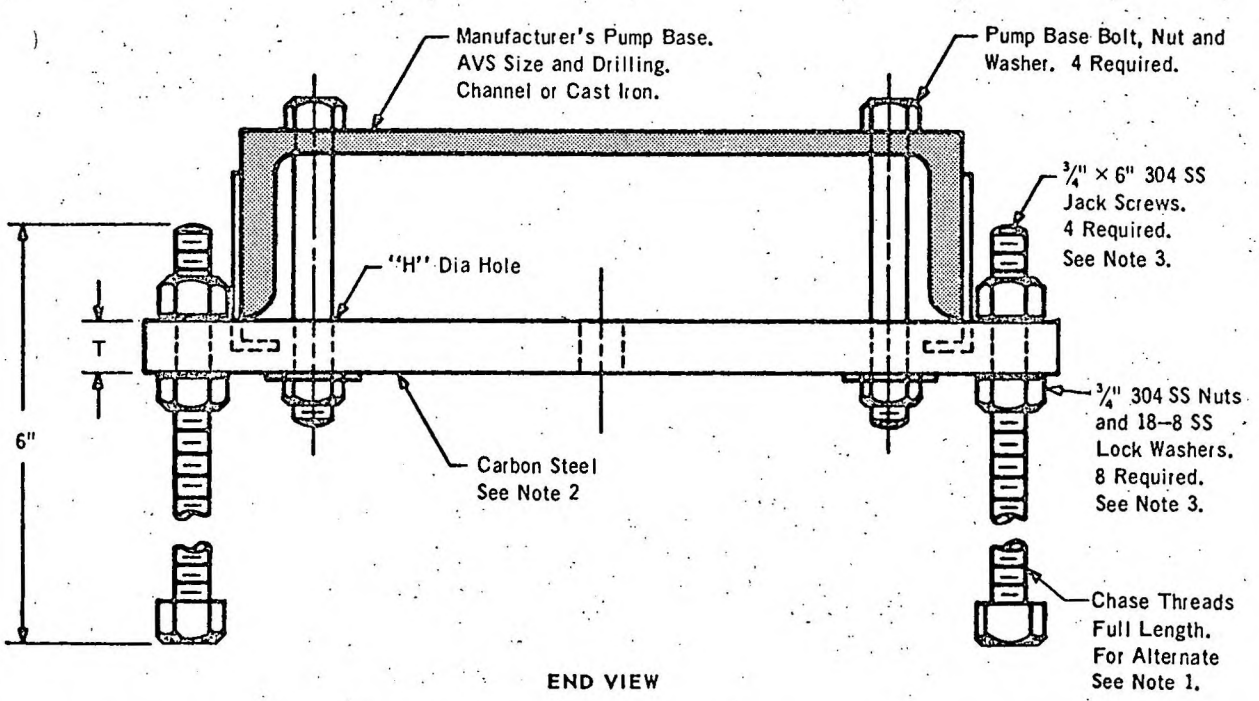
7. REFERENCES Reference is made herein to the following Monsanto Standard and Form:

K1.3 Std 604	"Epoxy (Coal Tar)"
Form ES 56	"Centrifugal Pump Specification"

PCB-ARCH-EXT0372201



PLAN VIEW



END VIEW

"AVS" Pump Bases				Max Motor Frame	Bracket (Note 3)						Pump Base Bolts, Inches	
Duriron Base No.	Goulds Base No.	Dimensions, In.			Size	Dimensions, Inches						
		Width	Length			A	L	B	T	H	Diameter	Length
50	Model 3197	10	35	184	1	6	14	4	⅝	¾	⅝	4½
51		12	39	215	2	7	16	4½	⅝	¾	⅝	4½
52	1	12	45	215	2	7	16	4½	⅝	¾	⅝	5
53	2	15	52	286U	3	8½	19	6	1	¾	⅝	6
54	3	18	58	365U	4	10	22	7½	1	1	⅞	6¾

NOTES:
1. Fabricator has option of using threaded stock or studs and tack welding a nut at the bottom for a bolt head.
2. Paint carbon steel bar only, using Monsanto Specification K1.3 Std 604.
3. Two brackets per set. 4 jack screws and 8 nuts and washers to be furnished with each set of brackets.

FIGURE 1. ADJUSTABLE MOUNTING BRACKET

PCB-ARCH-EXT0372202

EPOXY (COAL TAR)

This standard has been judged acceptable for interim C&I use. It will be submitted for formal review and approval under procedures of the company-wide standards program. See "SOURCE" at bottom of page for origin of this standard.

1. LIMITATIONS These materials should not be applied at surface temperatures below 50 F. Carbomastic must be topcoated in 2 days if exposed to sunlight. The coatings are difficult and costly to remove if, for any reason, it is considered desirable to change the system. Due to the dark color of materials, visual inspection for film continuity is unreliable; a Tinker-Rasor Holiday Detector (or similar low-voltage instrument) should be used. Field experience has indicated that workmen have difficulty in distinguishing the second coat of Carbomastic from the first. Particular care is necessary to insure that specified thickness is obtained.

1.1 Service Temperatures 200 F, continuous; 280 F peak.

2. SURFACE PREPARATION Near-White Blast Cleaning (SSPC-SP10-63T).

3. MATERIALS AND COVERAGE

Coat	Product/Color	Vendor	Film Thickness Mils		Coverage[1] Sq Ft/Gal
			Wet	Dry	
Prime		Carboline Company St. Louis, Missouri			
Body	Carbomastic No. 12 IFS[2]		11	7	135
Seal	Carbomastic No. 12 IFS[2]		11	7	135

[1]Coverage values are 75% of theoretical; for estimating purposes only.
[2]Carbomastic No. 12 IFS is available in black color only.

3.1 Pot Life of Materials 6 hours at 75 F.

3.2 Recoat Time 18 hours at 75 F.

4. MIXING Mix 1 pint Catalyst to 1 gallon Resin. Use mechanical agitation to mix. Allow to stand 30 minutes before thinning.

5. THINNING For spraying, thin with Carbomastic thinner up to 1 quart per gallon. For brushing, as needed, not to exceed 1 quart per gallon.

5.1 Substitute Thinner Toluol.

5.2 Clean-Up Material Carboline No. 2 cleaner or MEK.

6. APPLICATION Apply all coats by brushing or conventional or airless spray equipment. Conventional or airless spray is preferred.

6.1 Spray Equipment Adequate application of this paint system can be achieved with the following equipment: For conventional spraying use DeVilbiss P-MBC or JGA gun with D (.086") tip and 64 air cap with ½" material hose. For airless spraying, use 28:1 ratio pump and Graco 205-162 gun with .021" orifice tip, ½" material hose. Remove screens at gun and pump.

PCB-ARCH-EXT0372203