



**SEPOR, INC.**  
 718 N. FRIES AVE.  
 P. O. BOX 578  
 WILMINGTON, CA 90748  
 PHONE: 310-830-6601  
 FAX: 310-830-9336

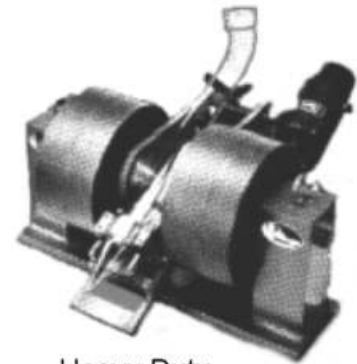
## DAVIS MAGNETIC TUBE TESTER

**The Davis Magnetic Tube Tester is for:**

- Determining the magnetic content in products obtained from heavy media processes
- Determining the magnetic content in products obtained from taconite iron ore processes
- Determining the magnetic content in ore samples from prospecting programs



Standard Duty



Heavy Duty

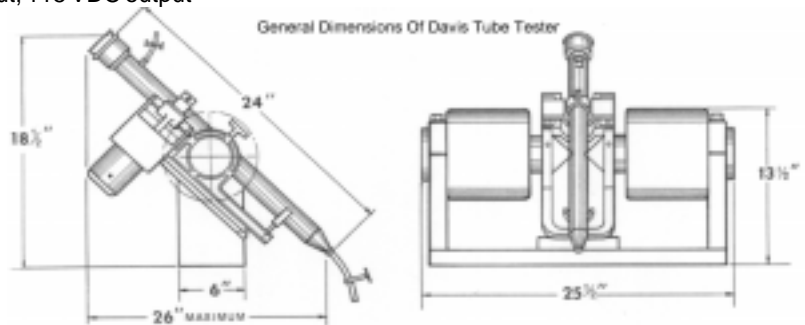
The Davis Magnetic Tube Tester consists of an extremely powerful electromagnet which can generate a magnetic field intensity of up to 4,000 gauss, a glass separation tube and a motor driven agitation mechanism. The tube is positioned between the poles of the magnet at an angle of approximately 45 degrees (the angle is adjustable).

During the operation of a small electric motor drives the agitating mechanism that supports the waterfilled glass tube. The tube moves forward and backward while it rotates simultaneously. Any magnetic particles present in the product sample inside the tube are collected in the zone of intense magnetism. A vigorous washing action by agitation is applied to these magnetics. Eventually all nonmagnetics are flushed from the tube. A clean concentrate of magnetics is then available for determining percent.

The Tube Tester is not intended to show total iron content of an ore as will chemical analysis. Chemical analysis shows total iron content whether magnetic or nonmagnetic; and thus fails to give a true picture of what can be accomplished by magnetic concentration. The Davis Magnetic Tube Tester will determine magnetic content - and it takes only about 10 minutes for an accurate determination.

**STANDARD EQUIPMENT:**

- Governor controlled variable speed motor, 115 VDC
- Variable speed motor, control box, 115 VAC input, 115 VDC output
- Magnet switch
- 10 feet of rubber hose
- 4 squeeze type hose clamps
- 2 stainless steel pans
- 1 rubber hose

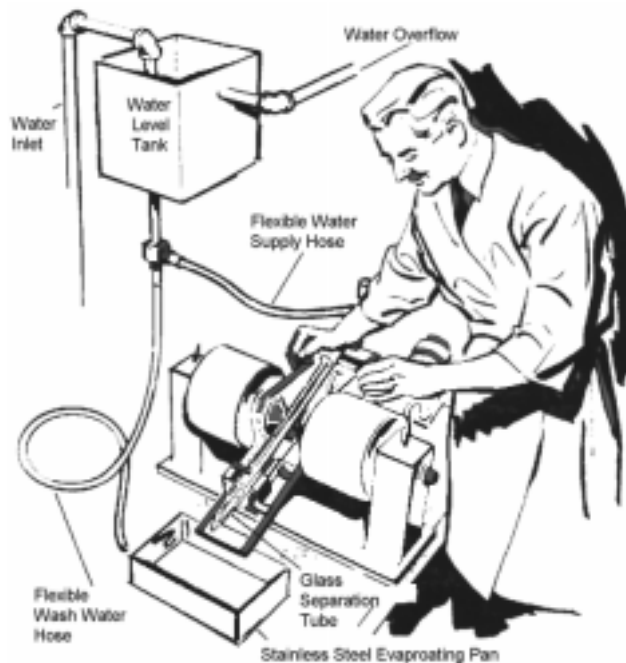


CATALOG NUMBER	DESCRIPTION	INPUT CURRENT	WEIGHT (LBS)
060A-001	Standard Duty Tube Tester, 10 gm capacity, 230 Watt	115 V/1Ph	250 Lbs.
060A-005	Heavy Duty Tube Tester, 30 gm capacity, 660 Watt	230 V/1 Ph	475 Lbs

# Operating Instructions For The Davis Tube Tester



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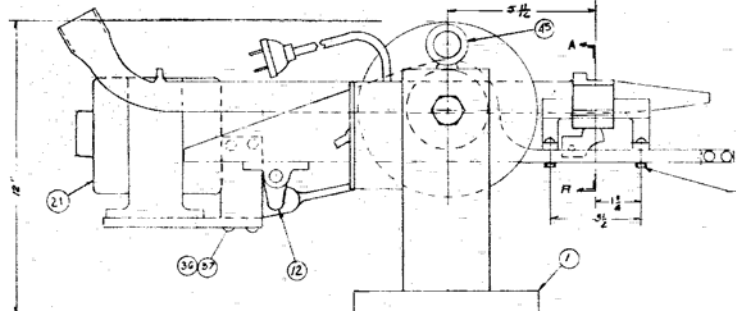
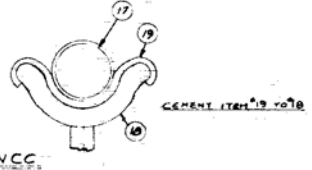
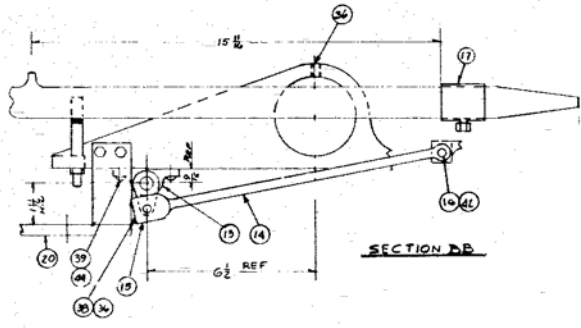
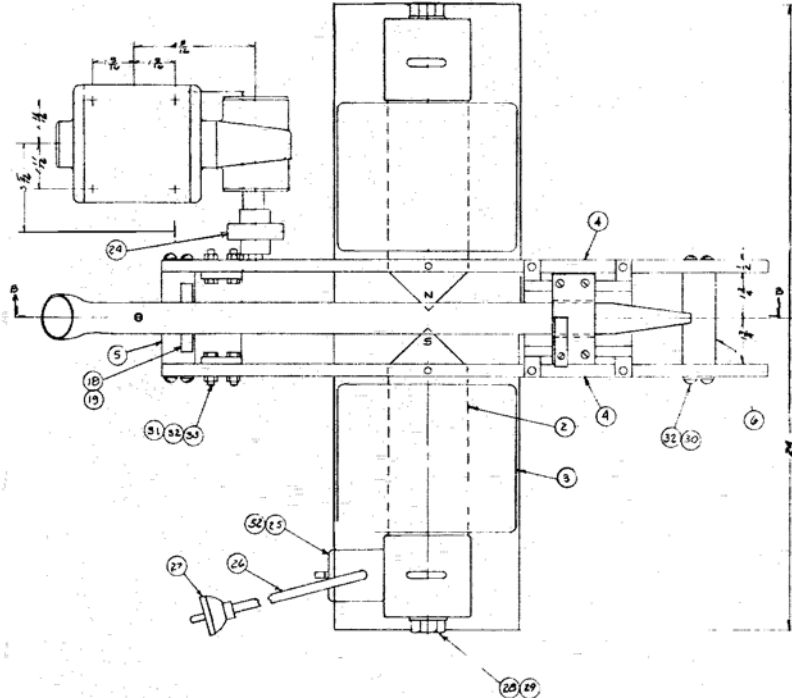


1. Attach three inch piece of flexible hose to discharge end of tube. This can be accomplished by use of tape.
2. Clamp discharge end of hose.
3. Fill tube with water so that magnet poles are covered.
4. Turn on magnet.
5. Introduce crushed sample accurately weighed (10 grams in Standard Duty, 30 grams in Heavy Duty).
6. Wash with water so that entire sample is in slurry.
7. Place rubber stopper in top of tube.
8. Unclamp discharge hose clamp and regulate steady flow of water through tube.
9. Agitate tube.
10. Allow to agitate at a constant speed until slimes or cloudiness are washed out of the tube. Magnetic material is attracted and held fast in the magnetic zone between the two magnet poles. It is recommended that length of agitation time and speed be recorded so that a standard procedure can be set up if one type of sample is to be constantly tested for quality.
11. Stop agitation.
12. Remove rubber stopper from top of tube.
13. Turn off water.
14. Place clean pan under discharge end of tube.
15. Turn off magnet.
16. Wash magnetics into pan.
17. Dry magnetics.
18. Weigh and determine percentage of magnetics.

**PARTS LIST — STD. DUTY TUBE TESTER**

Item No.	Pcs. Req'd.	Description	Part No.	Price Each
1	1	Frame Assembly	B2841-Fig. 1	\$209.
2	2	Pole Piece	A2129-1	82.
3	2	Coils	B2772-Fig. 1	241.
4	2	Side Frame	B728-1	91.
5	1	End Piece Rear	A479-1	16.
6	1	End Piece Front	A479-2	15.
7	1	Tube Support Bracket	B730-1	172.
8	2	Slide Bearing	A480-1	15.
9	1	Agitating Bracket	A481-1	91.
10	1	Sleeve Support	A482-1	75.
11	1	Tube Holder Spring	A483-1	1.
12	1	Crank Shaft	A484-1	133.
13	2	Bearing	LA-812-B	4.
14	1	Connecting Rod	A486-1	62.
15	1	Connecting Rod Cap	A487-1	23.
16	1	Wrist Pin	A488-1	2.
17	1	Glass Tube Assembly	B799-Fig. 1	81.
18	1	Tube Support	A493-1	36.
19	1	Felt 1/8 x 7/16 x 4-1/2	-	-
20	1	Motor Support Assembly	B13156-Fig. 1	78.
21	1	1/15 Bodine Motor Reducer and Control, 115V. d-c	-	406.
24	1	Flexible Coupling	JR-212-RD	12.
25	1	AB - Motor Starter	600 Tax 5	20.
45	2	Eye Bolt #3 - 3/8 Thread	-	1.
46	2	Pan 2" Deep x 8" x 12"	-	20.
48	1	Rubber Tube 3/16" ID x 9/32" OD x 10 ft. lg.	-	4.
49	4	Hose Clamp, Lab Squeeze Type	-	1.
50	1	Solid Rubber Stopper #8	-	1.
52	1	AB Heater Element #P-12	-	2.
		Complete Agitating Assembly Consisting of Items 7 thru 16.	-	676.

Note: Spec. number on complete Tube Tester is K7308 Fig. 3.



NO. 18 (1/8") DRILL THRU TO MATCH (19) IN ASSEMBLY 4 PLACES

