



Farm Machinery Testing and Training Centre
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SPECIFICATION SHEET OF TRACTOR OPERATED FERTILIZER BROADCASTER

1	General			
	Name & address of manufacturer	:		
	Name & address of applicant	:		
	Name of implement	:		
	Type	:		
	Make	:		
	Serial Number	:		
	Model	:		
	Year of manufacture	:		
	Recommended power source	:		
	Power source used, kW	:		
2	Main frame / Chassis			
	a)	Type	:	
	b)	Size of box section, mm	:	
	c)	Size of supporting flat, mm	:	
	d)	Type of mounting of box section	:	
3	Hopper			
	a)	Shape	:	
	b)	Inner diameter of hopper, mm	:	
	c)	Hopper capacity, lit	:	
	d)	Material and thickness, mm	:	
	e)	Internal height at side, mm	:	
	f)	Internal height at centre, mm	:	
	g)	Size of hole at bottom, mm	:	
	h)	Bottom slope, degree	:	
	i)	Ratio between diameter and height of hopper	:	
	k)	Method of fixing the hopper with main frame	:	

4	Agitator:		
	a)	Shape	:
	b)	Location	:
	c)	Material and thickness, mm	:
	d)	Size of agitator, mm	:
	e)	Vertical clearance of agitator above the aperture, mm	:
	f)	Arrangement for fixing of agitator to the centre shaft	:
5	Feed control mechanism		
5.1	Funnel		
	a)	Shape	:
	b)	Material and thickness, mm	:
	c)	Size of hole, mm	:
	d)	Outer dia. of cone, mm	:
	e)	Cone slope, degree	:
	f)	Arrangement for fixing of feed control of hopper	:
5.2	Feed control lever		
	a)	Type	:
	b)	Material and thickness, mm	:
	c)	Size of lever, mm	:
	d)	Arrangement for fixing of lever to feed control	:
5.3	Lever grip		
	a)	Shape	:
	b)	Material	:
	c)	Size of plastic grip, mm	:
	d)	Method of fixing the grip to hopper	:
5.4	Locking device (feed control)		
	a)	Shape	:
	b)	Material	:
	c)	Size of grip, mm	:
	d)	Arrangement for fixing of screw to hopper	:
5.5	Guide strip		
	a)	Shape	:
	b)	Material	:
	c)	Size of strip, mm	:
	d)	Arrangement for holding the	:

		strip on hopper		
6	Collar for spreading disc:			
	a)	Shape	:	
	b)	Material	:	
	c)	Dia. of collar	:	
	d)	Length of collar, mm	:	
	e)	Thickness of collar, mm	:	
	f)	Arrangement for fixing of collar to centre shaft and spreading disc	:	
7	Spreading disc:			
	a)	Shape	:	
	b)	Material	:	
	c)	Dia. of disc, mm	:	
	d)	Width of outer edge, mm	:	
	e)	Vertical clearance below the hopper bottom, mm	:	
	f)	Thickness of disc, mm	:	
	g)	Direction of rotation	:	
	h)	Arrangement for fixing of disc to collar	:	
8	Fins			
	a)	Shape	:	
	b)	Material	:	
	c)	No. of fins	:	
	d)	Size of fins, mm	:	
	e)	Spacing between two fins at outer edge, mm	:	
	f)	Arrangement for fitting of fins to spreading disc	:	
9	Drive mechanism			
9.1	Centre shaft			
	a)	Shape	:	
	b)	Material	:	
	c)	Diameter, mm	:	
	d)	Length, mm	:	
	e)	Arrangement for fixing of centre shaft to main frame	:	
9.2	Driven gear			
	a)	Type	:	
	b)	Material	:	
	c)	No. of teeth	:	

	d)	Method of firing the gear with shaft	:		
9.3	Gear shaft				:
	a)	Type	:		
	b)	Material	:		
	c)	Diameter, mm	:		
	d)	Length, mm	:		
	e)	Arrangement for fixing the gear shaft to main frame	:		
9.4	Intermediate gear				
	a)	Type	:		
	b)	Material	:		
	c)	No. of teeth	:		
	d)	Arrangement for fixing the gears to gear shaft	:		
9.5	Crank rod				
	a)	Shape	:		
	b)	Material	:		
	c)	Diameter, mm	:		
	d)	Length, mm	:		
	e)	Arrangement for fixing of crank rod	:		
9.6	Drive gear on crank rod				
	a)	Type	:		
	b)	Material	:		
	c)	No. of teeth	:		
	d)	Gear ratio between drive and intermediate bevel gear	:		
	d)	Arrangement for fixing of drive gear on crank shaft	:		
9.7	Crank bolt				
	a)	Type	:		
	b)	Material	:		
	c)	Size of crank bolt (mm)	:		
	d)	Pitch (mm)	:		
	e)	Size of threaded locking bolt (mm)	:		
	f)	Arrangement for fixing crank bolt	:		
9.8	Crank				
	a)	Shape	:		
	b)	Material	:		

	c)	Max. length of crank, mm	:		
	d)	Dia. of crank rod, mm	:		
	e)	Length of crank between the centre of crank shaft to centre of handle, mm	:		
	f)	Arrangement for fixing crank bolt and handle	:		
10	Implement hitch point as per IS				
	a)	Type	:		
	b)	Construction details	:		
	Three point linkage dimensions, mm (Refer Fig.1)				
	Sr. No.	Notations	As per IS: 17231:2019 (1N, 1, /2N, 2), mm	As measured, mm	Remarks
	I	Upper hitch point			
	D ₁	Diameter of hitch pin	19 (0-0.08)/ 25.5 (0-0.13)		
	b ₁	Width between inner faces of yoke	52 (Min.)		
	II	Lower hitch points			
	D ₂	Diameter of hitch pin	22 (0-0.2)/ 28 (0-0.2)		
	b ₃	Linch pin hole distance	49 (Min.)		
	b ₅	Clevis width	65+20		
	l	Lower hitch point span	400±1.5, 683±1.5, 683±1.5, 825±1.5		
	III	Other dimensions			
	d	Diameter for linch pin hole			
		Upper hitch pin	12 (min.)		
		Lower hitch pin	12 (min.)		
	h	Mast height	360±1.5 460±1.5 610±1.5 610±1.5		

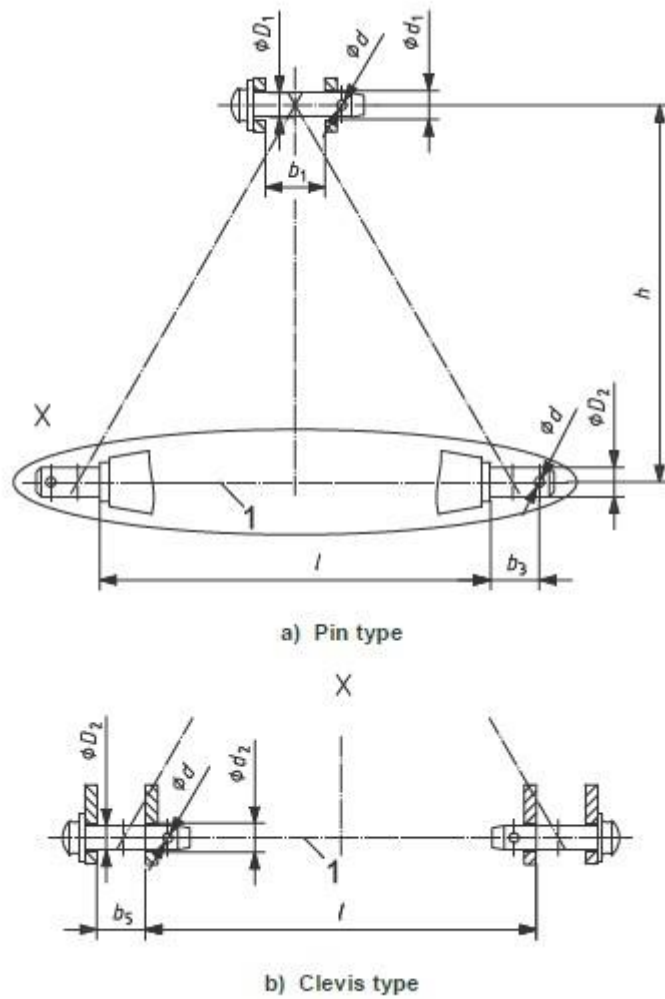


Fig 1 Dimensions related to implement hitch attachment

11	Power transmission system:			
	a)	Method of transmission	:	
11.1	Dimensions of Splined end of pinion shaft, mm (Refer Fig. 2)			
	Specification	As per IS: 4931-2004	As observed	Remarks
	1	2	3	4
	D Φ	34.79 \pm 0.06		
	d Φ	28.91 \pm 0.05		
	B Φ	29.4 \pm 0.1		
	S	8.69		
	R	6.7 \pm 0.25		

α	30°		
G	7		
H	38		
A	54 (Min.)		
B	76 (Min.)		
I	25±0.5		
J (optional hole)	8.3		

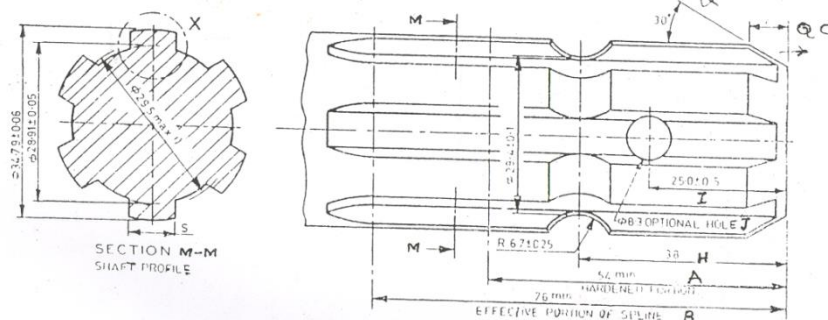


Fig. 2: Dimensions of Implement Power Input Shaft, mm

11.2	Gear box assembly (primary reduction):		
a)	Type	:	
b)	No. of teeth on pinion	:	
c)	No. of teeth on bevel gear	:	
d)	Reduction ratio at gear box	:	
e)	Oil capacity, l	:	
f)	Oil change period	:	
g)	Recommended grade of oil	:	
h)	Length of power transmission	:	
i)	Length of shaft, mm (from gear box to secondary reduction unit)	:	
j)	Dia of shaft, mm	:	
k)	Provision of breather	:	
l)	No. of bearing	:	
11.3	Gear box assembly (secondary reduction)		
a)	Type	:	
b)	No. of teeth on drive gear	:	

Designation: _____