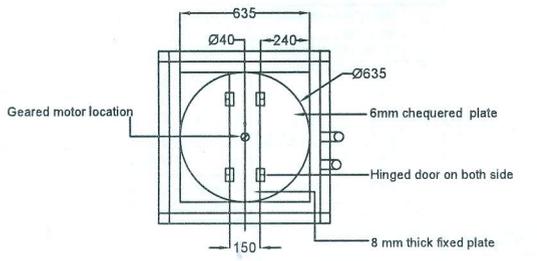


SI NO	Description	Drawing no	Material	Qty
01	Mixing tank with gear box assembly	HLL-CED-CR&DC-015-01 1/11	SS 316	01 NO
02	Mixing tank with gear box	HLL-CED-CR&DC-015-00 2/11	SS 316	01 NO
03	Mixing tank without gear box	HLL-CED-CR&DC-015-00 3/11	SS 316	01 NO
04	Gear box spec	HLL-CED-CR&DC-015-00 4/11	----	01 NO
05	Electrical spec	HLL-CED-CR&DC-015-00 5/11	----	01 NO
6A	Agitator assembly	HLL-CED-CR&DC-015-00 6/11	SS 316	01 NO
6B	Mounting flange	HLL-CED-CR&DC-015-00 7/11	SS 316	01 NO
6C	oil seal 25 x 40 x 6 mm	Std item	Neoprene Rubber	01 NO
6D	Deep Groove Ball bearing ID 25 OD 62 w 17 mm ( Bearing NO :27)	Std item	----	02 NO
6E	Spacer	HLL-CED-CR&DC-015-00 8/11	SS 316	01 NO
6F	Top Cover	HLL-CED-CR&DC-015-00 9/11	SS 316	01 NO
6G	M6 X 15 mm SHD Bolt	Std item	SS 316	01 NO
6H	Shaft	HLL-CED-CR&DC-015-00 10/11	SS 316	01 NO
6I	M6 x 10 mm Grub Screw	Std item	SS 316	02 NO
6J	M6 x 25 mm SHD Bolt	Std item	SS 316	03 NO
6K	M6 plain washer	Std item	SS 316	03 NO
6L	Blade	HLL-CED-CR&DC-015-00 11/11	SS 316	01 NO

MATERIAL: 2 mm SH-T, THK SS 316	<b>HLL Lifecare Limited.</b> Thiruvananthapuram-5		NO. OFF.
DRAWN BY: SHIBIN	TITLE: MIXING TANK WITH GEAR BOX ASSEMBLY		
CHECKED BY: RAJKIRAN.D	HLL-CED-CR&DC-015-01		
APPROVED BY:	SHEET NO-1111		
DATE: 22-12-2017	REV- DATE-		
SCALE:	ALL DIMENSIONS ARE IN M.M		

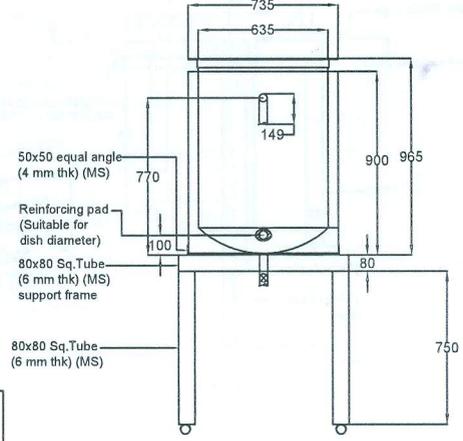
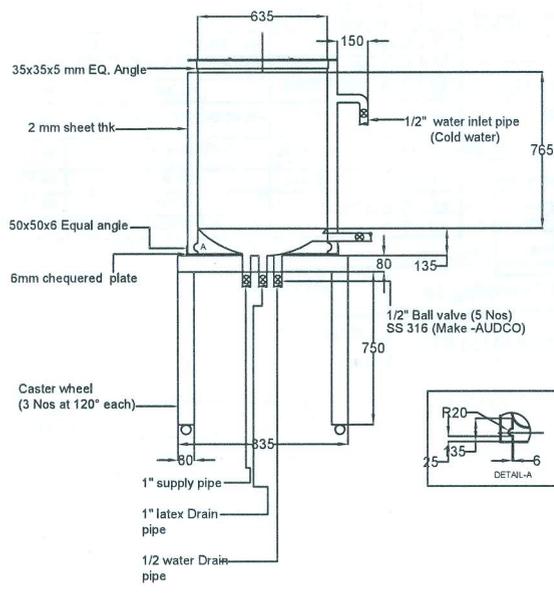
*Handwritten signature and date:*  
08/02/18



**NOTE:-**

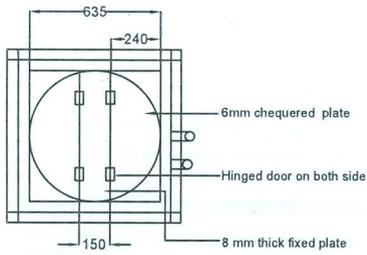
1. INSIDE AND OUTSIDE SURFACE OF THE INNER TANK ESPECIALLY PARTS ON AND NEAR WELDING JOINTS SHALL BE FINISHED WITH GRINDING MACHINE BUFFING MACHINE OR EQUIVALENT
2. ALL INSIDE SURFACE SHALL BE BUFFED FOR #300
3. INNER AND OUTER TANK SHALL BE SUBJECT TO LEAK TEST, PRESSURE EQUAL TO THE FOLLOWING  
INNER TANK - FULL OF LATEX  
JACKET TANK - 1.2 Kg/cm<sup>2</sup> WITH WATER LEAK TEST OF INNER TANK SHALL BE CARRIED OUT BEFORE OUTER TANKS WELDING
4. ALL WELDING TO BE CARRIED OUT IN TIG
5. BALL VALVE MAKE - AUDCO, SINGLE PIECE/2 PIÉCE DESIGN
6. INSULATION WORK OF TANK TO BE CARRIED OUT AFTER IRRECTING THE TANK INPLACE AT HLL SITE

**Caster wheel specifications**  
 Diameter=100 mm  
 Width=50 mm  
 Hub bore =20 mm  
 Ball journal =200-HSUB-60-20  
 Break and swivel type



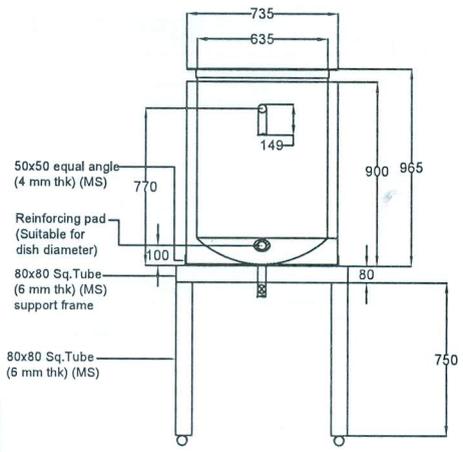
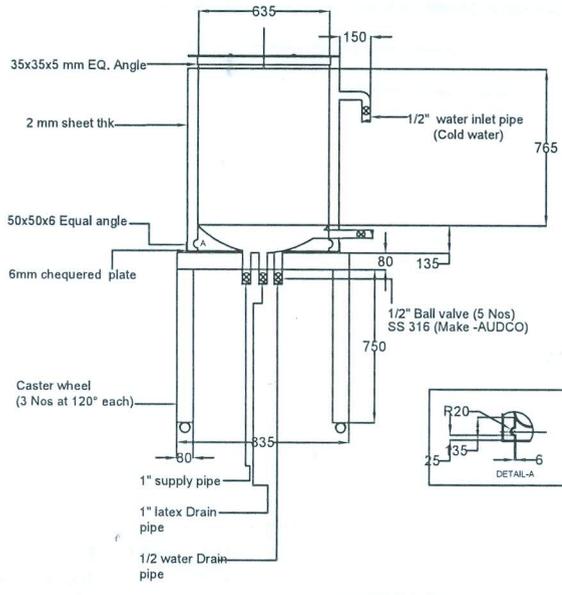
MATERIAL: 2 mm SH.T. THK SS 316	HLL Lifecare Limited. Thiruvananthapuram-5	NO OFF.
DRAWN BY: SHIBIN	TITLE: MIXING TANK ( 300 L)	
CHECKED BY: RAJKIRAN.D		
APPROVED BY:		
DATE: 22-12-2017	HLL-CED-CR&DC- 015-02	
SCALE:	(SHEET NO.-2/11)	REV. DATE:
ALL DIMENSIONS ARE IN M.M		

*Handwritten signature and date: 28/02/18*

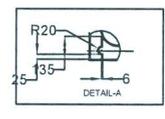


**NOTE:-**

1. INSIDE AND OUTSIDE SURFACE OF THE INNER TANK ESPECIALLY PARTS ON AND NEAR WELDING JOINTS SHALL BE FINISHED WITH GRINDING MACHINE BUFFING MACHINE OR EQUIVALENT
2. ALL INSIDE SURFACE SHALL BE BUFFED FOR #300
3. INNER AND OUTER TANK SHALL BE SUBJECT TO LEAK TEST, PRESSURE EQUAL TO THE FOLLOWING  
 INNER TANK - FULL OF LATEX  
 JACKET TANK - 1.2 Kg/m<sup>2</sup> WITH WATER LEAK TEST OF INNER TANK SHALL BE CARRIED OUT BEFORE OUTER TANKS WELDING
4. ALL WELDING TO BE CARRIED OUT IN TIG
5. BALL VALVE MAKE - AUDCO, SINGLE PIECE/2 PIECE DESIGN
6. INSULATION WORK OF TANK TO BE CARRIED OUT AFTER IRRECTING THE TANK INPLACE AT HLL SITE



**Caster wheel specifications**  
 Diameter=100 mm  
 Width=50 mm  
 Hub bore =20 mm  
 Ball journal =200-HSUB-60-20  
 Break and swivel type

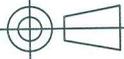


MATERIAL: 2 mm SH/T, THK SS 316	HLL Lifecare Limited, Thiruvananthapuram-5	NO.OFF.
DRAWN BY: SHEBIN	TITLE: MIXING TANK WITHOUT GEAR BOX	
CHECKED BY: RAJKIRAN.D		
APPROVED BY:		
DATE: 22-12-2017	HLL-CED-CR&DC- 015-02	
SCALE:		REV. DATE:
ALL DIMENSIONS ARE IN M.M		

*Handwritten signature and date: 08/02/18*

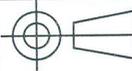
### GEAR BOX SPECIFICATION

Motorised gear box	LENZE/ SEW/NORD/ ROSSI / SUMITOMO / SIEM
MAKE	ENS
RATING	0.75KW
TYPE	WORM GEAR , RIGHT ANGLED
NO OF STAGES	2
POWER INPUT	ASYN. THREE PHASE AC 440V , 50HZ
OUT PUT SHAFT	HOLLOW SHAFT 20 DIA
GEAR BOX DESIGN	FOOT MOUNTING WITH CENTERING
FLANGE AT OUTPUT END	WITHOUT FLANGE
NO OF POLES	4
REDUCTION RATIO	1: 53
OUTPUT RPM	28
LUBRICATION	LIFE LUBRICATED
MOTOR MOUNTING	INTEGRAL MOTOR / DIRECT COUPLING
MOTOR PROTECTION	TKO (THERMAL CONTACT , NC )
TERMINAL BOX	TOP OF MOTOR
CONNECTION TYPE	STANDARD
ENCLOSURE	IP55
DUTY CLASS	S1
TEMPERATURE CLASS	F
COOLING	FAN COOLED
FACTOR OF SAFETY	1
RULE	CONSTRUCTION SAFETY
EFFICIENCY CLASS	IE 1

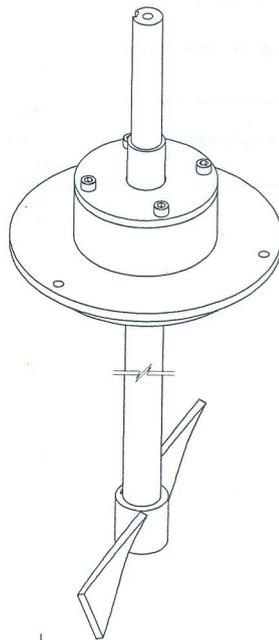
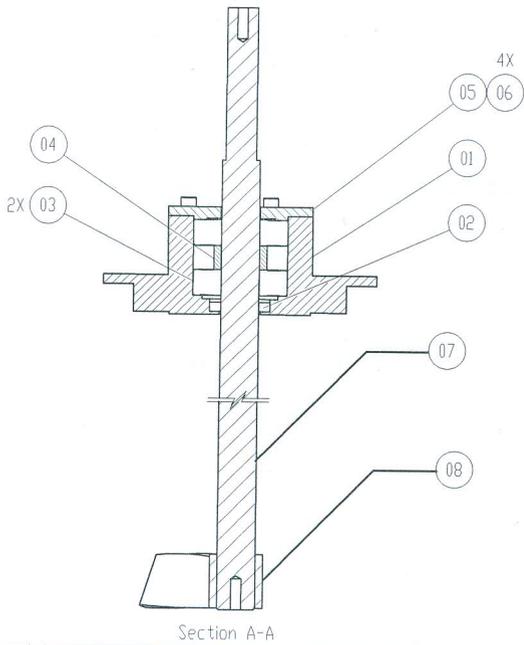
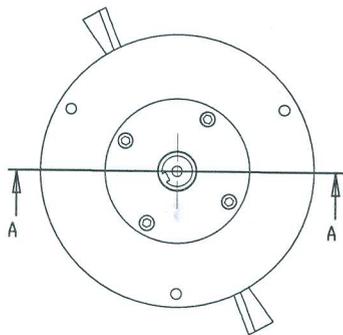
MATERIAL: MS		<b>HLL LIFECARE LIMITED.</b> NO.OFF.	
		<b>Thiruvananthapuram-5</b>	
DRAWN BY:	SHIBIN	TITLE:-	GEAR BOX SPECIFICATION
CHECKED BY:	RAJKIRAN		
APPROVED BY:			
DATE:	10.1.2018		
SCALE:	NTS	HLL-CED-CR&DC-015-04	
ALL DIMENSIONS ARE IN M.M		SHEET.NO :-4/11	
		REV- 0 DATE-	

  
 08/02/18

ELECTRICAL SPECIFICATION FOR GEAR BOX SPEED REDUCTION (24rpm- 12 rpm)					
	DESCRIPTION	MAKE	UNIT	QTY	STANDARDS
1	supply and installation of variable frequency Drive (VFD) ( as per IEC 60034-2-3 With test & calibration certification 0.75kw VFD , 3Ph	ABB / Allenbradely / GE / mistubushi	NOS	1	AS Per IS / IEC 60034-2-3
2	supply and installation of illuminated push button (as per IEC 60947-5-1 / IEC61058-1) withn Test certificates illuminated push button (Red & Green )	L&T / siemens / ABB / GE / Moeller / EAO	SET	1	As per is / IEC 60947 -5-1 / IEC 61058-1
3	supply and installation of MCB 6A , 4 pole , 440 V	LS / GE /ABB / Siemens / moeller / L&T	NOS	1	As per IS 13032 , IS 13947 / IEC 60947-5-2 , IS 9409 / IEC 61140 , IS 8623 ( part 1 to 3) / IEC 60439 (1 to 3 ) IS 8504/ IEC 60216-4-2 , IS 60715/ IEC 60715 , IS 60898 / IEC 60898 , IS 60947 (part 1& 2) /IEC 60947, IS 10118 ( PART 1 TO 4 ) , IS 60529/ IEC 60529 , IS 9676
4	supply and installation of panel Board supply of machine panel board with size 0.4x0.4 mtrs with 2mm power coated GCR A Sheet (Wiring should as per IS 732 & Earthing of panel should be as per IS 3043/ IEC 60364 , panel should be as per IS 8437 ( part 1&2) / IEC 60479 - 1&2 , IS 60529/IEC 60529 , IS 9409 / IES 61140, IS 9676 , IS 5216 With Test certificates )	Rishab / L&T / Rittal / converse	NOS	1	Wiring should be as per IS 732 / IEC 61439 & Earthing of panel should be as per IS 3043/IEC 60364 , panel should be as per IS 8437 ( part 1&2) / IEC 60479-1&2, IS 60529/ IEC 60529 , IS 9409 / IEC 61140, IS 9676, IS 5216
5	supply and installation of MPCB 6A , 4 POLE , 440V	LS / ABB/ Moeller / L&T	NOS	1	AS per IS 13032 , IS 13947 / IEC 60947 -5-2 , IS 9409/ IEC 61140, IS 8623 ( Part 1 to 3) /IEC 60439 (1 to 3e) , IS 8504/ IEC 60216-4-2 , IS 60715 / IEC 60715 , IS 60898/ IEC 60898 , IS 60947 (Part 1&2)/ IEC 60947 , IS 10118( Part 1 to 4 ) , IS 60529 / IEC 60529, IS 9676

MATERIAL: MS		<b>HLL LIFECARE LIMITED.</b> NO:OFF, <b>Thiruvananthapuram-5</b>	
DRAWN BY:	SHIBIN	TITLE:- ELECTRICAL SPECIFICATION FOR GEAR BOX SPEED REDUCTION	
CHECKED BY:	RAJKIRAN	 <b>HLL-CED-CR&amp;DC-015-05</b>	
APPROVED BY:			
DATE:	10.1.2018		
SCALE:	NTS	SHEET.NO :- 5/11 REV:-0 DATE:-	
ALL DIMENSIONS ARE IN M.M			

  
 08/02/18

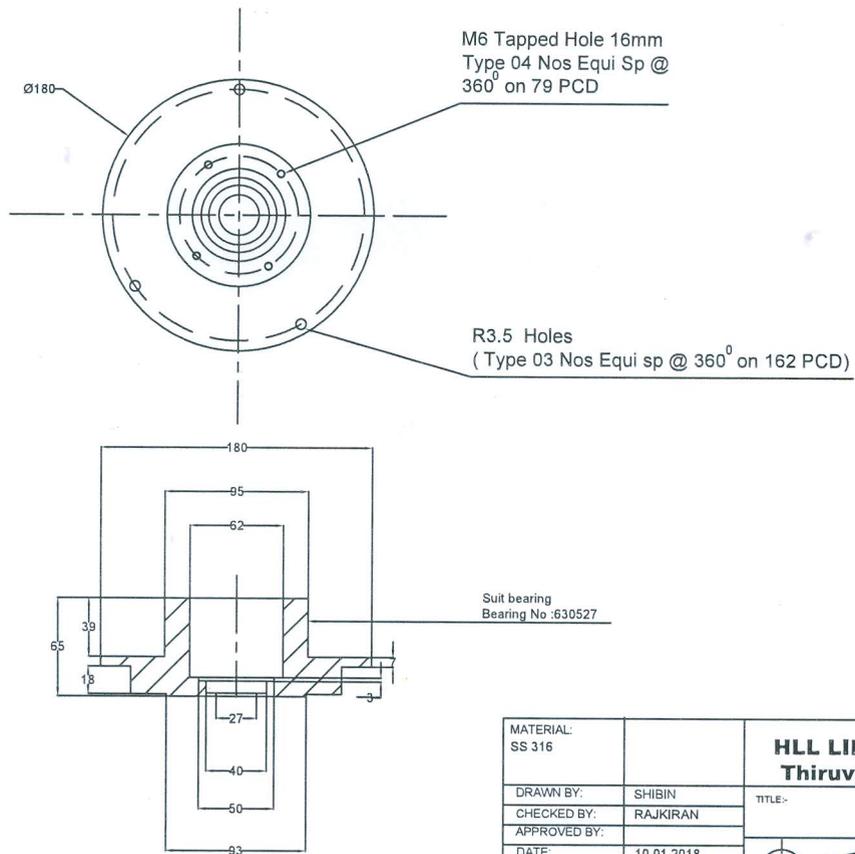


SI NO	Description	Drawing no	Material	Qty
01	Mounting flange	HLL-CED-CR&DC-003-00	SS 304	01 NO
02	oil seal 25 x 40 x 6 mm	Std item	Neoprene Rubber	01 NO
03	Deep Groove Ball bearing ID 25 OD 62 w 17 mm ( Bearing NO :27)	Std item	-----	02 NO
04	Spacer	HLL-CED-CR&DC-004-00	SS 304	01 NO
05	Top Cover	HLL-CED-CR&DC-005-00	SS 316	01 NO
06	M6 X 15 mm SHD Bolt	Std item	SS 304	01 NO
07	Shaft	HLL-CED-CR&DC-006-00	SS 316	01 NO
08	Blade	HLL-CED-CR&DC-007-00	SS 316	01 NO
09	M6 x 10 mm Grub Screw	Std item	SS 304	02 NO
Fastener Required for Fixing Agitator Assembly to MIXING Tank				
10	M6 x 25 mm SHD Bolt	Std item	SS 304	03 NO
11	M6 plain washer	Std item	SS 304	03 NO

\* Motorised Gear Box is under Scope of HLL.

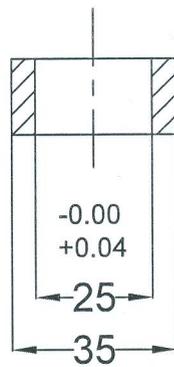
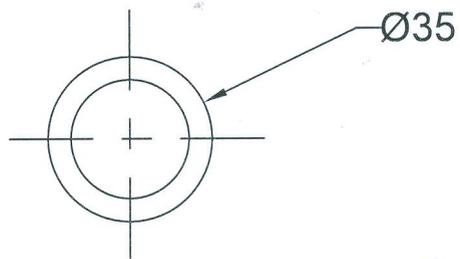
MATERIAL: SS 316	<b>HLL LIFECARE LIMITED.</b> NO.OFF. <b>Thiruvananthapuram-5</b>	
DRAWN BY: SHIBIN	TITLE: <b>AGITATOR ASSEMBLY</b>	
CHECKED BY: RAJKIRAN		
APPROVED BY:		
DATE: 10.01.2018	HLL-CED-CR&DC-015-06	
SCALE: NTS	SHEET.NO - 6/11	
ALL DIMENSIONS ARE IN M.M	REV. 0 DATE:	

*Handwritten signature and date: 08/02/18*



MATERIAL: SS 316		<b>HLL LIFECARE LIMITED.</b> NO.OFF.	
		<b>Thiruvananthapuram-5</b>	
DRAWN BY:	SHIBIN	TITLE:-	BEARING HOLDER
CHECKED BY:	RAJKIRAN		
APPROVED BY:			
DATE:	10.01.2018		
SCALE:	NTS		
ALL DIMENSIONS ARE IN M.M			HLL-CED-CR&DC-015-07
		SHEET.NO-7/11	REV-0
			DATE-

*Handwritten signature and date:*  
 08/10/21/18



MATERIAL:  
SS 316

**HLL LIFECARE LIMITED.** No. OFF.  
**Thiruvananthapuram-5**

DRAWN BY: SHIBIN

TITLE:- SPACER

CHECKED BY: RAJKIRAN

APPROVED BY:

DATE: 10.01.2018

SCALE: NTS

ALL DIMENSIONS ARE IN M.M



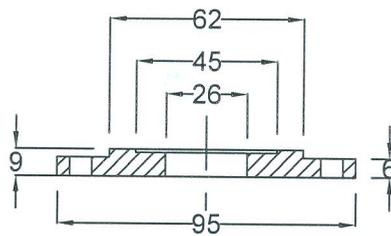
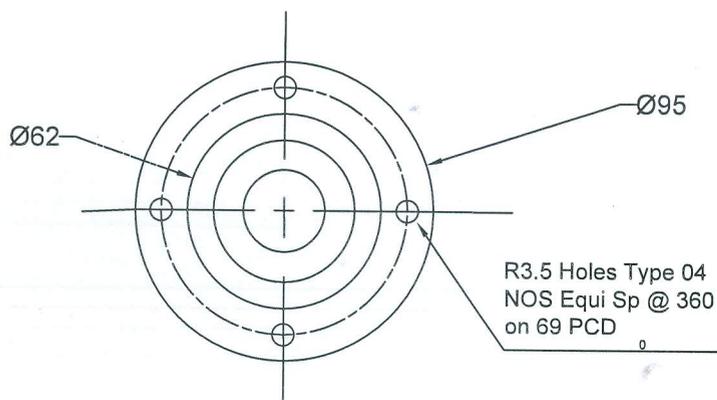
HLL-CED-CR&DC-015-08

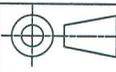
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REV:-0

DATE:-

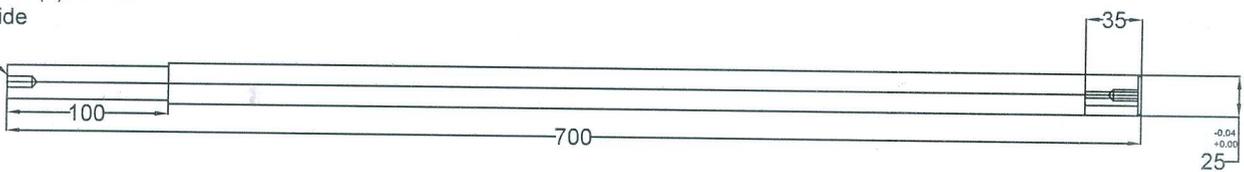
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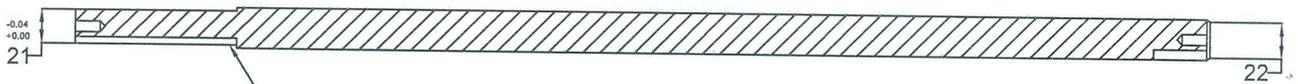
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DRAWN BY: SHIBIN		<b>Thiruvananthapuram-5</b>	
CHECKED BY: RAJKIRAN		TITLE- TOP COVER	
APPROVED BY:		 HLL-CED-CR&DC-015-09	
DATE: 10.01.2018			
SCALE: NTS			
ALL DIMENSIONS ARE IN M.M		SHEET.NO.-9/11	REV:-0 DATE:-

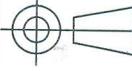
*AS*  
05/02/18

M8x20 mAm (L) -2 Nos  
on both side

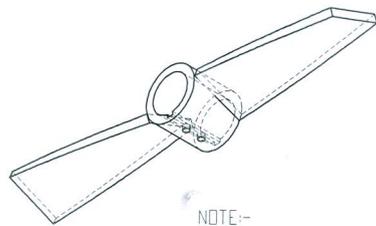
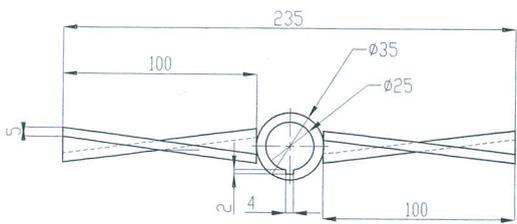
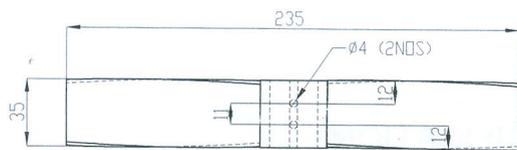


6X6 (100mm Length)  
Key way



MATERIAL: SS-316		<b>HLL LIFECARE LIMITED.</b> NO.OFF. <b>Thiruvananthapuram-5</b>	
DRAWN BY:	SHIBIN	TITLE:- SHAFT	
CHECKED BY:	RAJKIRAN	 HLL-CED-CR&DC-015-10	
APPROVED BY:			
DATE:	10-01-2018		
SCALE:	NTS	SHEET.NO:-10/11	REV-0
ALL DIMENSIONS ARE IN M.M			DATE:-

*Handwritten signature and date: 20/02/18*



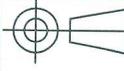
NOTE:-  
MATERIAL-SS 316  
TWISTING ANGLE 45°

MATERIAL: SS 316		<b>HLL LIFECARE LIMITED.</b> NO.OFF.	
		<b>Thiruvananthapuram-5</b>	
DRAWN BY:	SHIBIN	TITLE:-	<b>BLADE</b>
CHECKED BY:	RAJKIRAN		
APPROVED BY:			
DATE:	10.01.2018		HLL-CED-CR&DC-015-11
SCALE:	NTS		SHEET.NO.- 11/11
ALL DIMENSIONS ARE IN M.M			REV-0 DATE-
WEIGHT:		SCALE:1:1	SHEET 1 OF 1

*RAJ*  
08/02/18

## DIAPHRAM PUMP SPECIFICATION

Port size	1.1/2" NPT (internal) 1.1/2" BSP (Tapered) 1.1/2" ANSI 150# Raised Face Flanges
Capacity	0 to 106 gpm (401 lpm )
Air Distribution Valve	No-lube, no-stall design
Solids-Handling	Up to . 25" (6 mm )
Heads Up To	125 psi or 289 ft. of water (8.6 bar or 88 meters)
Displacement/Stroke	.41 gallons (1.55 liters)
Max Operating Pressure	125 psi (8.6 bar)
Shipping Weight	Stainless Steel : (43 kg )

MATERIAL: SS 316		<b>HLL LIFECARE LIMITED.</b> NO.OFF. <b>Thiruvananthapuram-5</b>	
DRAWN BY:	SHIBIN	TITLE:-	DIPHRAM PUMP SPECIFICATION
CHECKED BY:	RAJKIRAN		
APPROVED BY:			
DATE:	29.01.2018		HLL-CED-CR&DC-016-00
SCALE:	NTS		SHEET.NO.-
ALL DIMENSIONS ARE IN M.M			DATE-

  
 08/02/18