


Details of Mach 9.5 Contoured nozzle

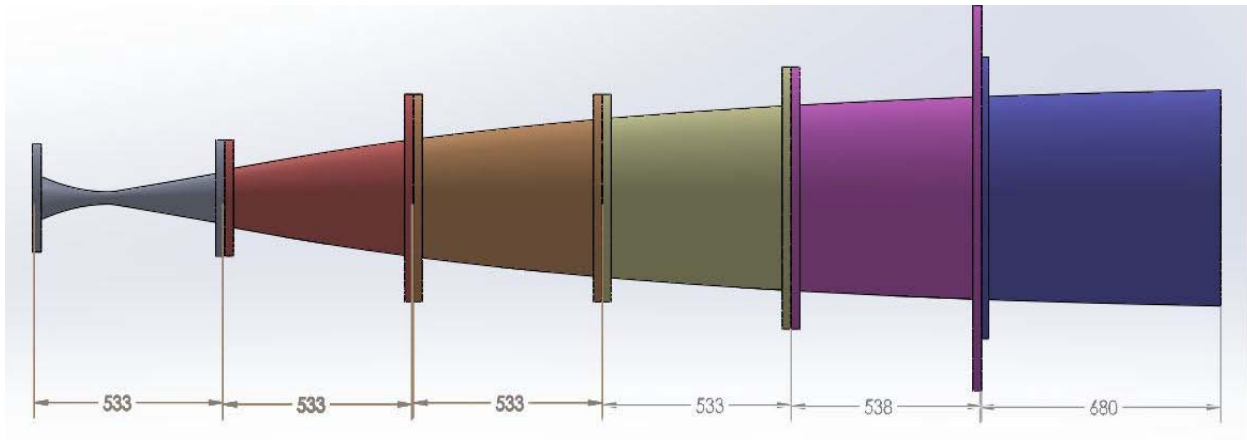
Specification for Mach 9.5 Nozzle:

Material:

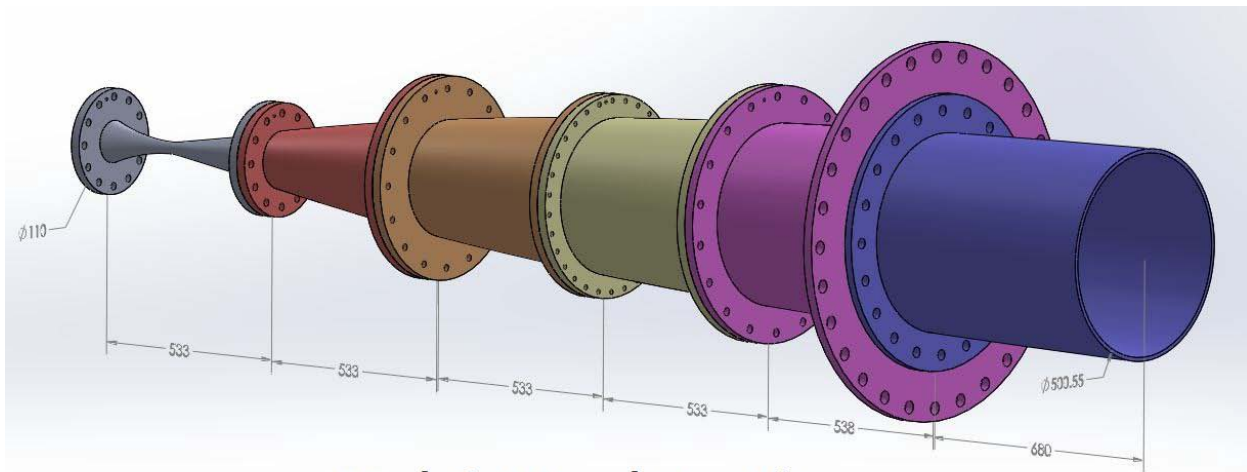
1. Throat Section: 17-4-Ph/EN58 B/SS420 heat treated.
2. Other parts of nozzle: MS.
3. Fasteners: High tensile bolts.

Details of Nozzle:

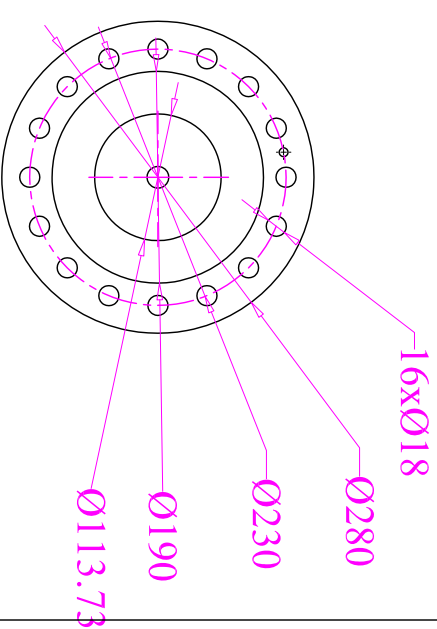
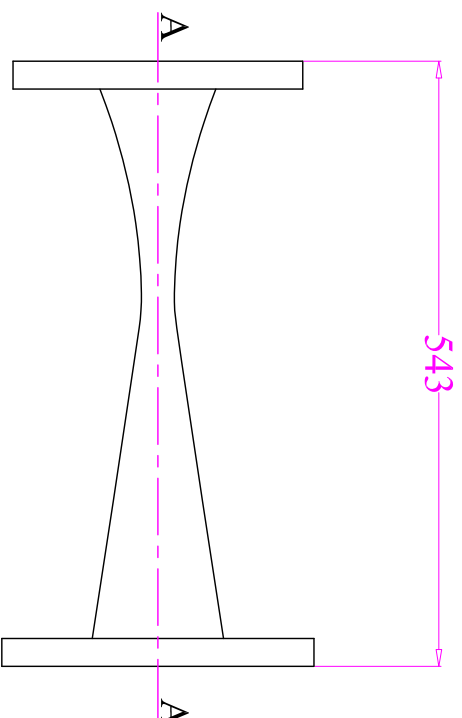
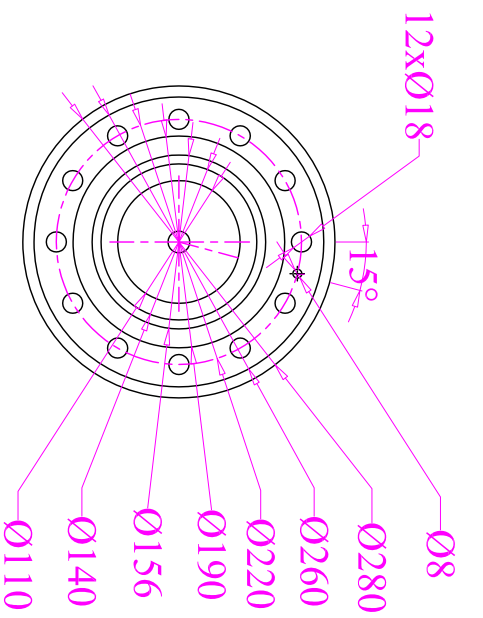
- Nozzle has to be made as per given detailed engineering drawings.
- The allowable tolerances on the machined inside surface are
 - i. ± 0.01 mm in the throat segment on diameter.
 - ii. ± 0.02 mm in other places on diameter.
- The allowable tolerances on the machined outside surface should be ± 0.1 mm.
- The overall length of the nozzle is 3350 mm and the nominal exit inner diameter is 0.5 m.
- The nozzles shall be divided into number of segments based on fabrication and inspection feasibility, maximum number of segments is limited to six numbers.
- Mating Flange will be provided with elastomeric o-ring on each segment. The tolerance for step inside profile due to flange joint can be ± 0.01 mm .
- Digital file of Internal contour of the Nozzles will be supplied by IISc.
- Inside and outside nozzle surfaces should be treated with Blackening /Hot dip Galvanizing/Plating.
- Surface finishing: Roughness grade number N6 has to be achieved i.e., 
- All fasteners should be High tensile (Unbrako).



Mach 9.5 Nozzle



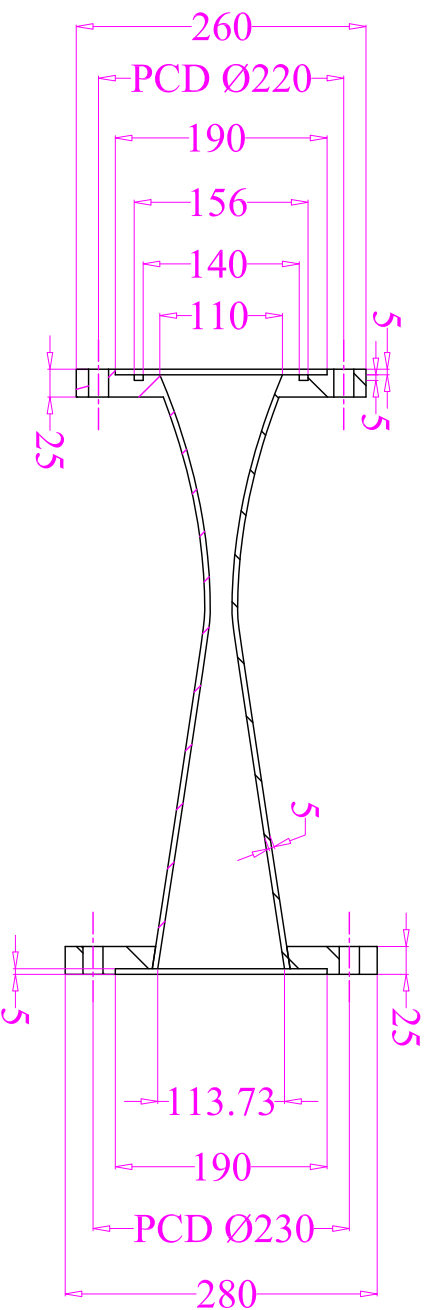
Mach 9.5 Nozzle Iso View



LEFT SIDE VIEW

FRONT VIEW

RIGHT SIDE VIEW



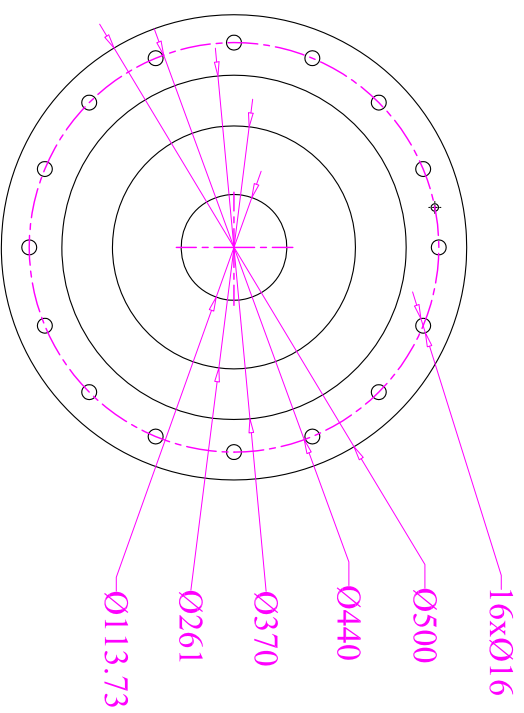
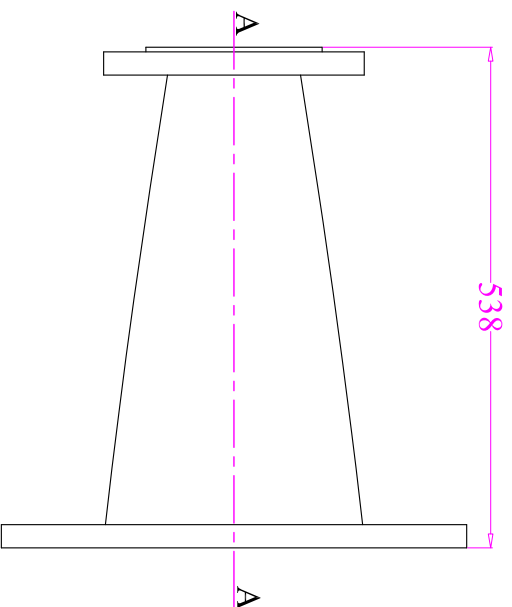
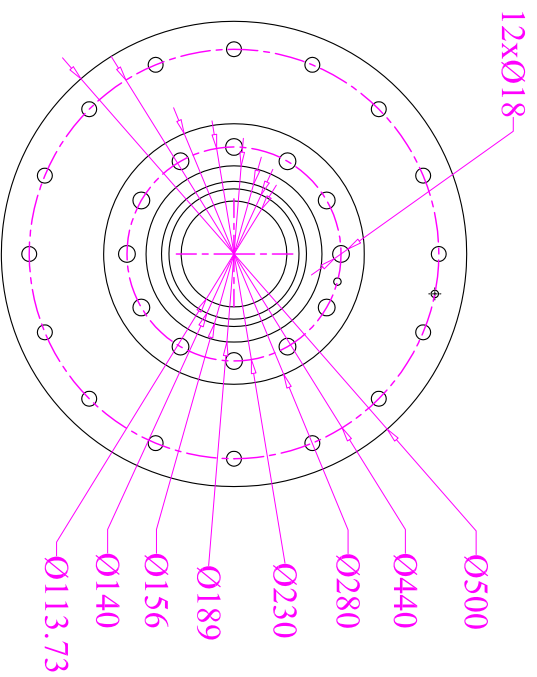
SECTION VIEW A-A

Note: Tolerance, unless specified, 100 microns

NAME				SIGN				ALL DIMENSIONS ARE IN MM					
DRN.	HM			DRG.	NOT TO SCALE			QUANTITY		MATERIAL	EN 58 B	1	
CHD.	SSP			WEIGHT	19.57kg			REF. NO.		HWT	0.5m/Ø9.5 Nozzle		
APPROVED	BV			DATE	08/01/16			DWG. No.		IISc/AE			
TITLE : MACH 9.5 NOZZLE_Throat													



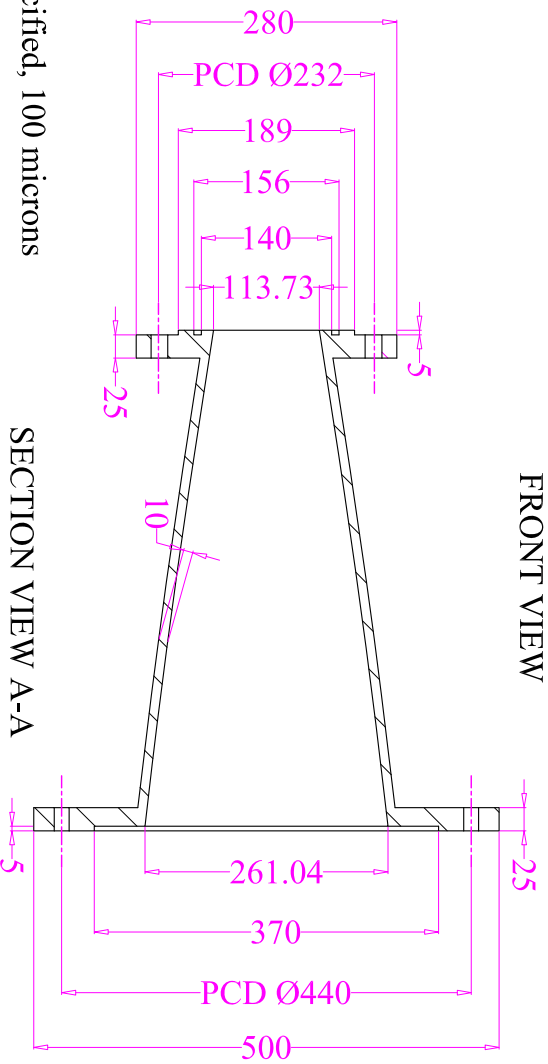
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LEFT SIDE VIEW

FRONT VIEW

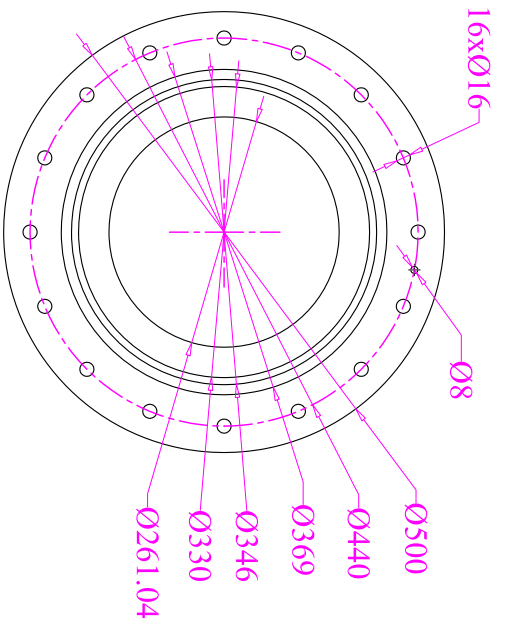
RIGHT SIDE VIEW



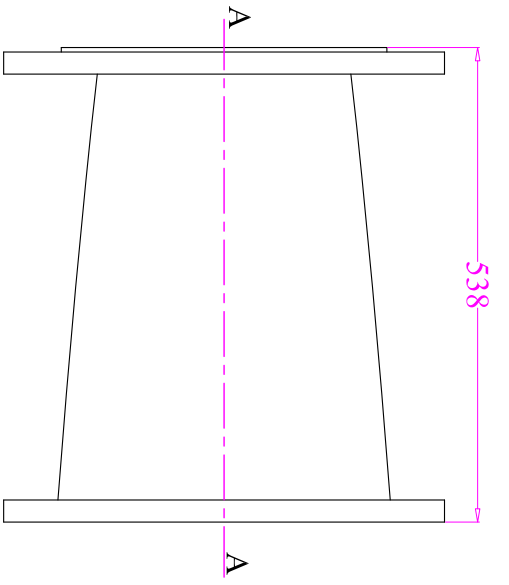
Note: Tolerance, unless specified, 100 microns

SECTION VIEW A-A

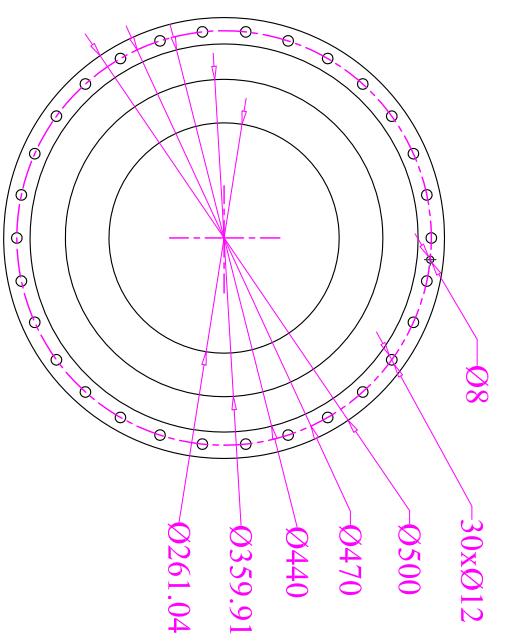
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DRN	HM	DRG. NOT TO SCALE	1
CHD	SSP	WEIGHT: 99.51KG	MIS
APPROVED BY	DATE: 08/01/16	REF. NO.	HW70.5mM9.5 Nozzle
TITLE: MACH 9.5 NOZZLE Part 1		DWG. No.	ISS/AE
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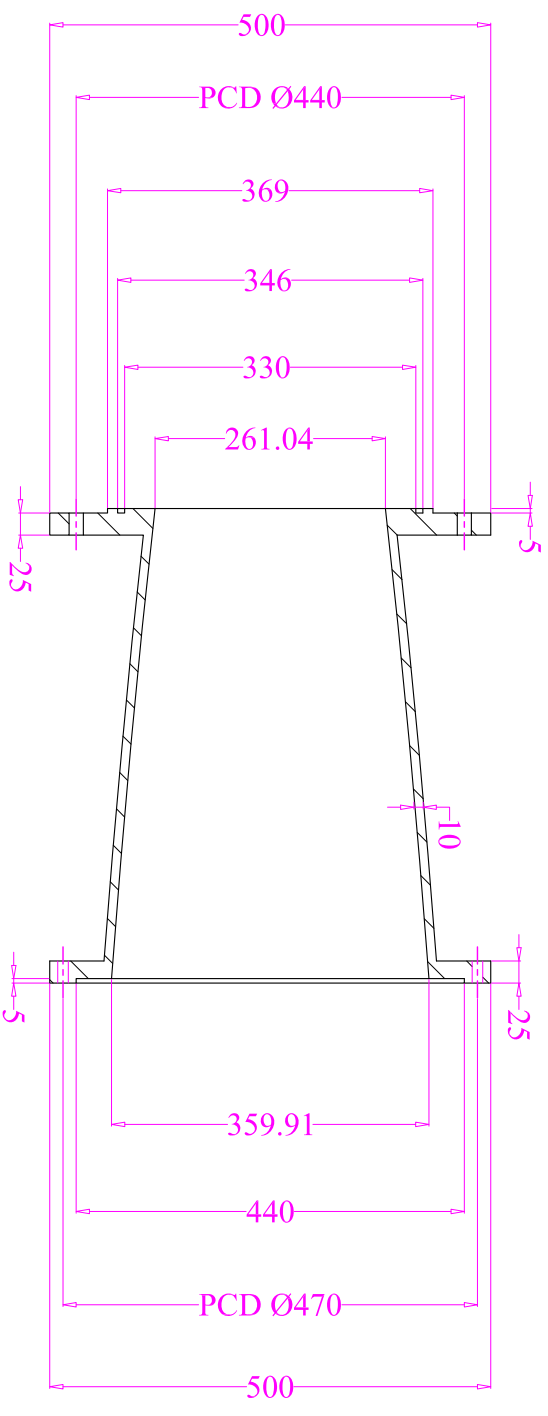
LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE VIEW

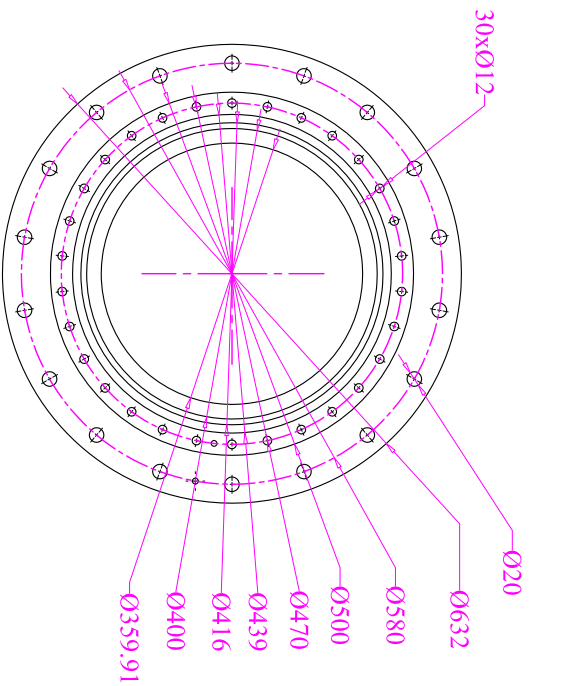


SECTION VIEW A-A

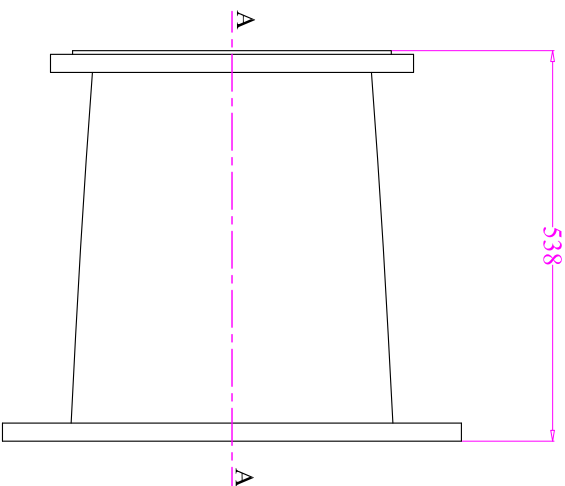
NAME	SIGN	ALL DIMENSIONS ARE IN MM	QUANTITY
DRN. HM		DRG. NOT TO SCALE	1
CHD. SSP		WEIGHT 33.638 kg	MATERIAL MS
APPROVED BV		DATE: 08/01/16	REF. NO. HWT/0.5m/M9.5 Nozzle

Note: Tolerance, unless specified, 100 microns

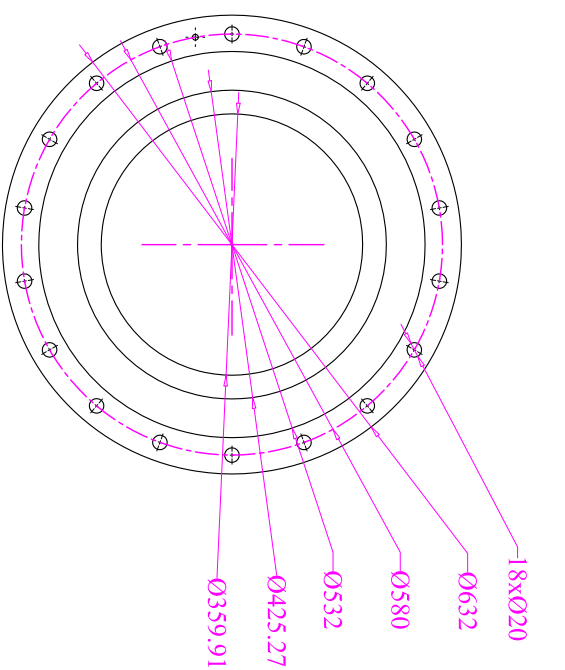
TITLE: MACH 9.5 NOZZLE_Part 2		DWG. No.	HIS/AE
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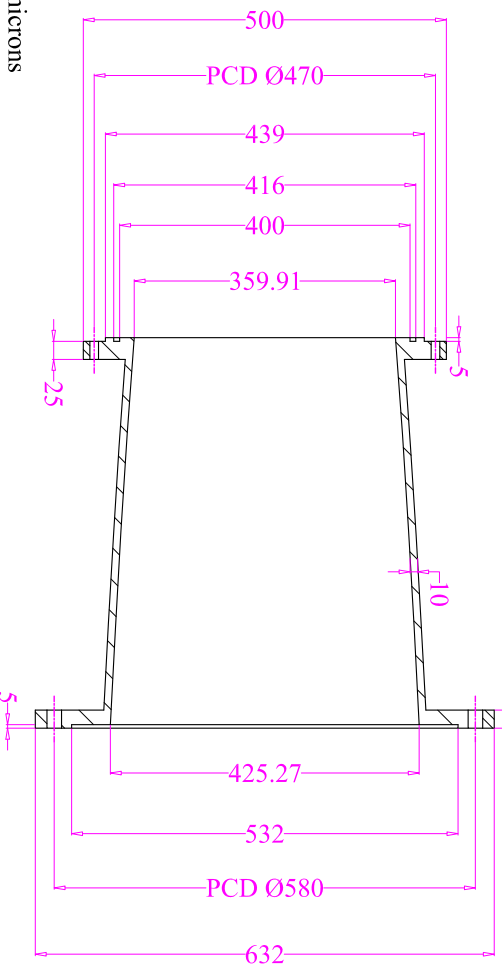
LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE VIEW

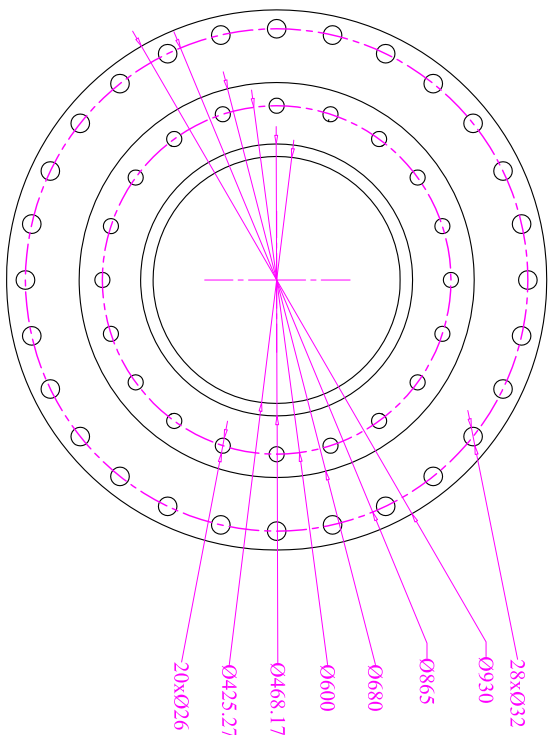
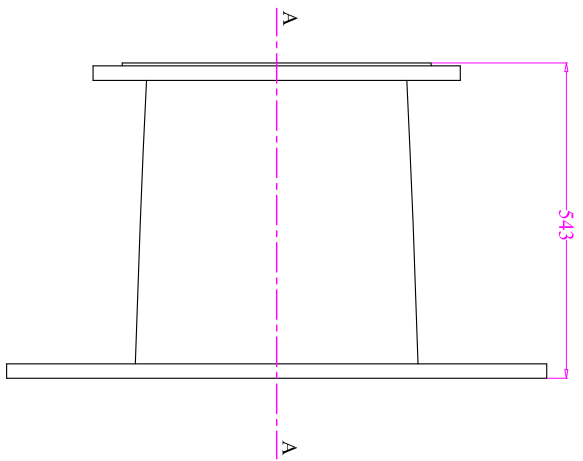
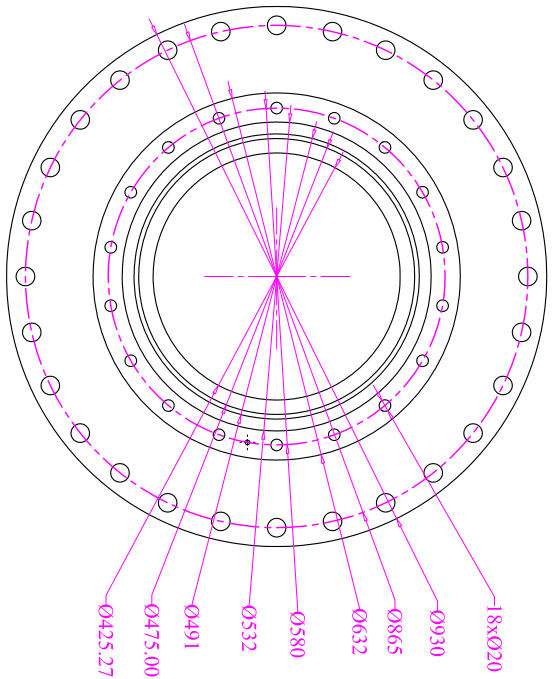


SECTION VIEW A-A

Note: Tolerance, unless specified, 100 microns

NAME	SIGN	ALL DIMENSIONS ARE IN MM	QUANTITY
DRN: HM		DRG. NOT TO SCALE	1
CHD: SSP		WEIGHT: 97.048g	MATERIAL: MS
APPROVED BY		DATE: 08/01/16	HW: T/0.5m/M/0.5 Nozzle

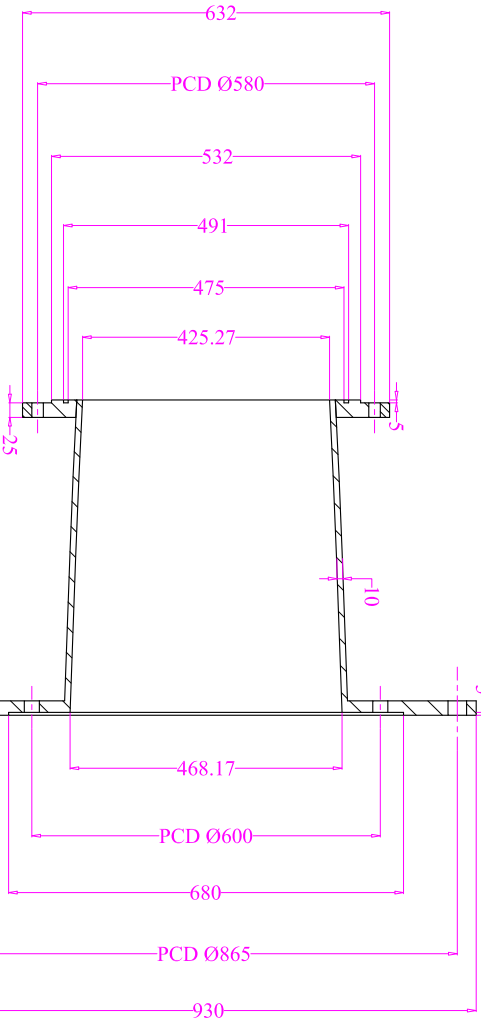
TITLE:	MACH 9.5 NOZZLE_Part 3	DWG. No.	ISS/ABE
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LEFT SIDE VIEW

FRONT VIEW

RIGHT SIDE VIEW



SECTION VIEW A-A

Note: Tolerance, unless specified, 100 microns

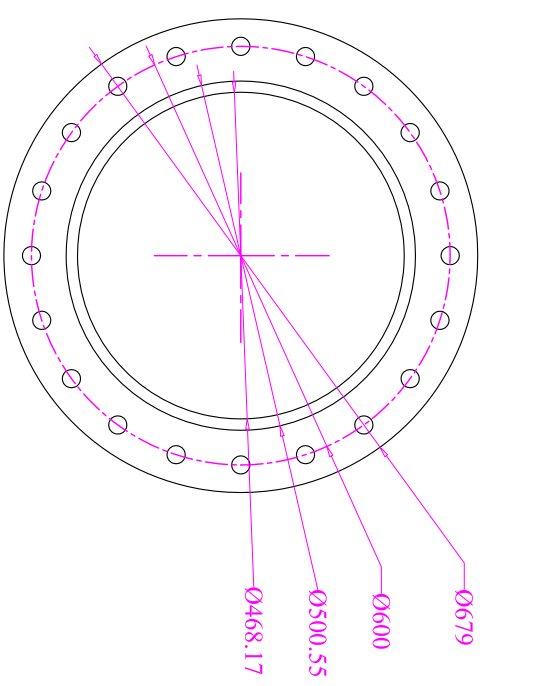
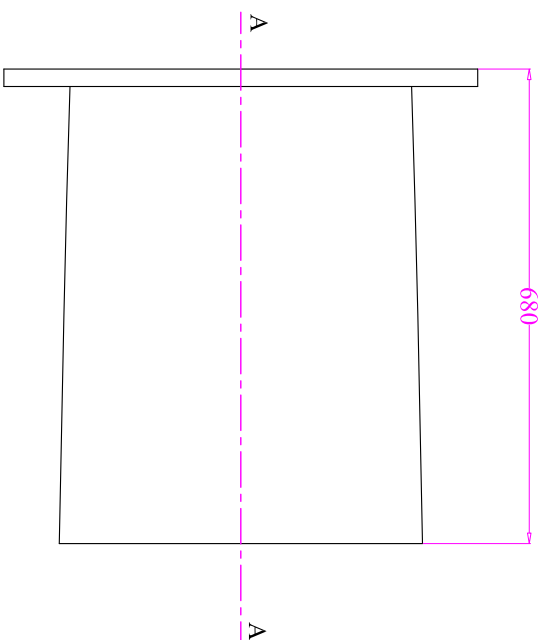
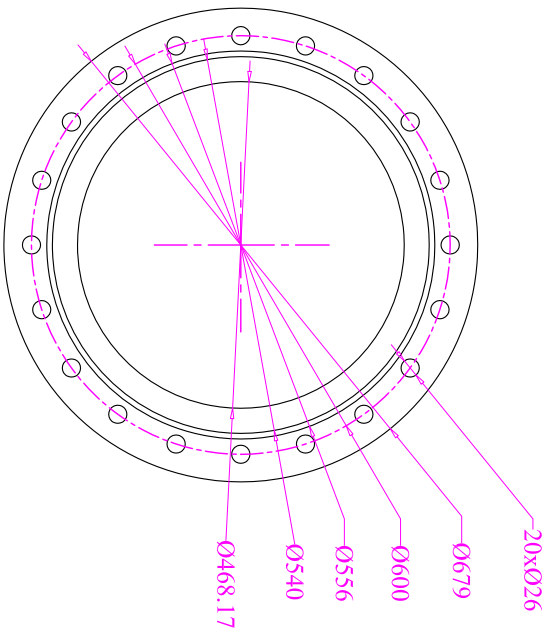
NAME	SIGN	ALL DIMENSIONS ARE IN MM	QUANTITY
DRN. HM		DRG. NOT TO SCALE	1
CHD. SSP		WEIGHT: 176.21kg	MS
APPROVED BV		REF. NO. HWT/0.5m/M9.5 Nozzle	
		DATE: 08/01/16	

TITLE: MACH 9.5 NOZZLE_Part 4

DWG. No. IISc/AE



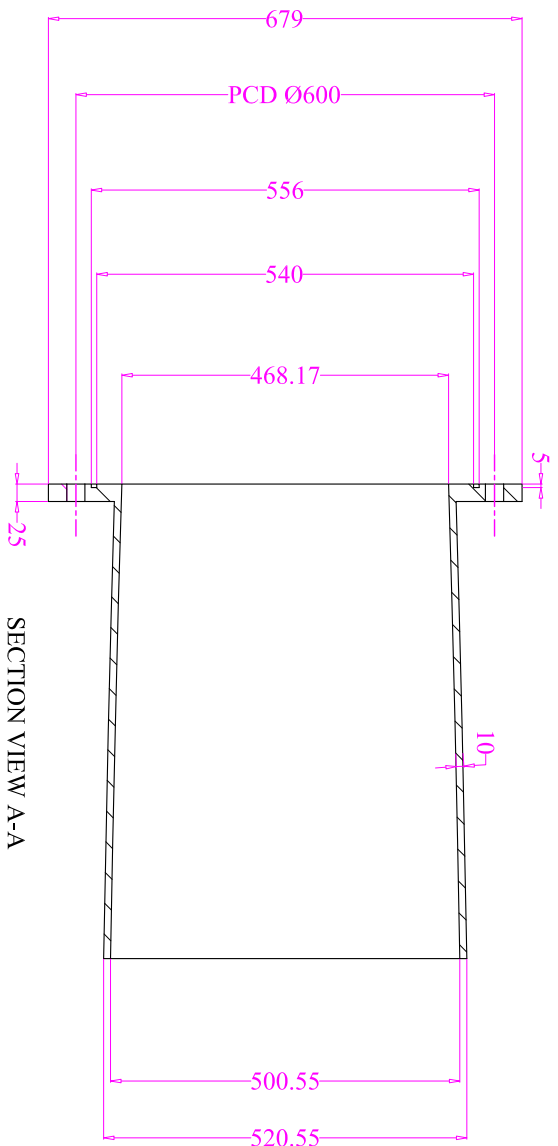
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LEFT SIDE VIEW

FRONT VIEW

RIGHT SIDE VIEW



SECTION VIEW A-A

Note: Tolerance, unless specified, 100 microns

NAME	SIGN	ALL DIMENSIONS ARE IN MM DRG. NOT TO SCALE	QUANTITY
DRN:	HM		1
CHD:	SSP		MS
APPROVED	BV	WEIGHT: 14.706g DATE: 08/01/16	REF. NO. HW/T0.5m/M0.5 Nozzle

TITLE: MACH 9.5 NOZZLE_Part 5
DWG. No. ISS/AE



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