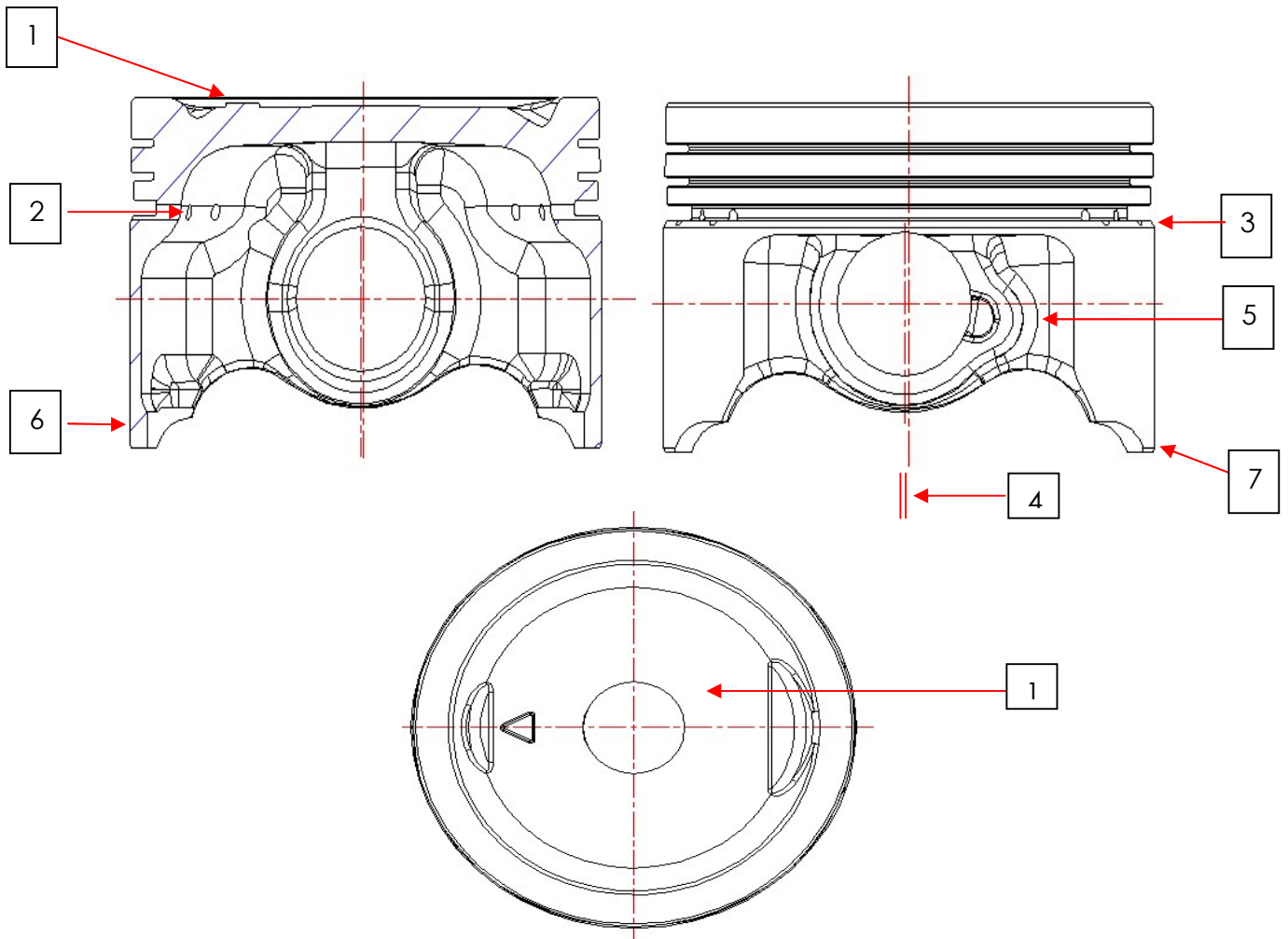


TECHNICAL BULLETIN – USHA TVS XL100 4S PISTON ASSEMBLY

USHA is pleased to introduce TVS XL100 4S piston assembly in our Bi-wheeler product range.

This piston assembly has following special features:

PISTON:



Unique features of USHA TVS XL100 4S piston are as follows:

S.No.	SPECIAL FEATURES	BENEFITS TO CUSTOMERS
1.	AS CAST CROWN: USHA TVS XL100 4S piston has as cast crown i.e. no machining is done on crown of the piston. As cast crown has better grain structure which increases the strength, heat resistance etc. of the piston.	<ul style="list-style-type: none"> Improves piston life.
2.	OIL HOLES IN OIL RING GROOVE: 05 nos. of oil holes are provided on each side of the oil ring groove.	<ul style="list-style-type: none"> Faster drainage of excess oil. Lesser oil consumption.

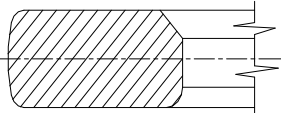
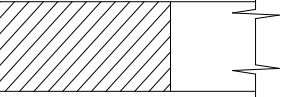
3.	CHAMFER AT BOTTOM FLANK OF OIL RING GROOVE:	<ul style="list-style-type: none"> • Better drainage of oil. • Reduction in skirt wear.
4.	PISTON- PIN BORE OFFSET: Piston pin bore offset means that the centre line of piston is slightly offset from the centre line of pin bore. Due to this offset, piston tilts at TDC & BDC smoothly and prevents slapping with liner.	<ul style="list-style-type: none"> • Reduces engine noise.
5.	AS CAST RELIEF IN PIN BORE AREA: As cast relief in pin bore area helps in better drainage of oil.	<ul style="list-style-type: none"> • Lesser oil consumption.
6.	SLIPPER DESIGN: Slipper design in piston skirt helps in reducing piston weight & provides better guidance to the piston movement.	<ul style="list-style-type: none"> • Improves fuel efficiency. • Better guidance to rings. • Low noise during engine working.
7.	BOTTOM CHAMFER: A smooth chamfer is provided at the bottom end of the piston which provides better hydrodynamic oil film.	<ul style="list-style-type: none"> • Helps in regulating oil supply, reduces skirt wear & hence longer life.
8.	TIN PLATING: Entire piston surface is tin plated. Tin plating is a slippery coating which helps in avoiding metal to metal contact during initial run-in period.	<ul style="list-style-type: none"> • Reduces friction. • Avoid piston scuffing.

TECHNICAL DATA- USHA TVS XL100 4S PISTON		
		USHA CODE→S59
Nominal Bore Diameter	mm	51.00
Piston Diameter - STD Size	mm	50.981
Recommended Piston-Liner Clearance	mm	0.019
Compression Height	mm	19.50
Total Height	mm	34.00
Piston Pin- Pin Bore Clearance	mm	+0.002 to +0.013 (Clearance Fit)

PISTON RINGS:

USHA TVS XL100 4S pistons are supplied with specially designed **HPVENT** ring sets for low oil & fuel consumption.

Technical details of TVS XL100 4S HPVENT ring set are as under:-

TECHNICAL DATA-USHA TVS XL100 4S 'HPVENT' RINGS						
Ring	Ring Configuration	Axial Thickness (mm)	Closed Gap		Surface Treatment	Cross Section
			(mm)	(Thou)		
Top	Steel Inside Bevelled	0.8	0.10-0.25	4-10	Gas Nitrided	
Second	Special Steel Taper	0.8	0.15-0.30	6-12	Parkerised	
Oil Ring	RIKVENT	1.50	0.20-0.70 (Rails)	8-28	Chrome Plated/ Parkerised	