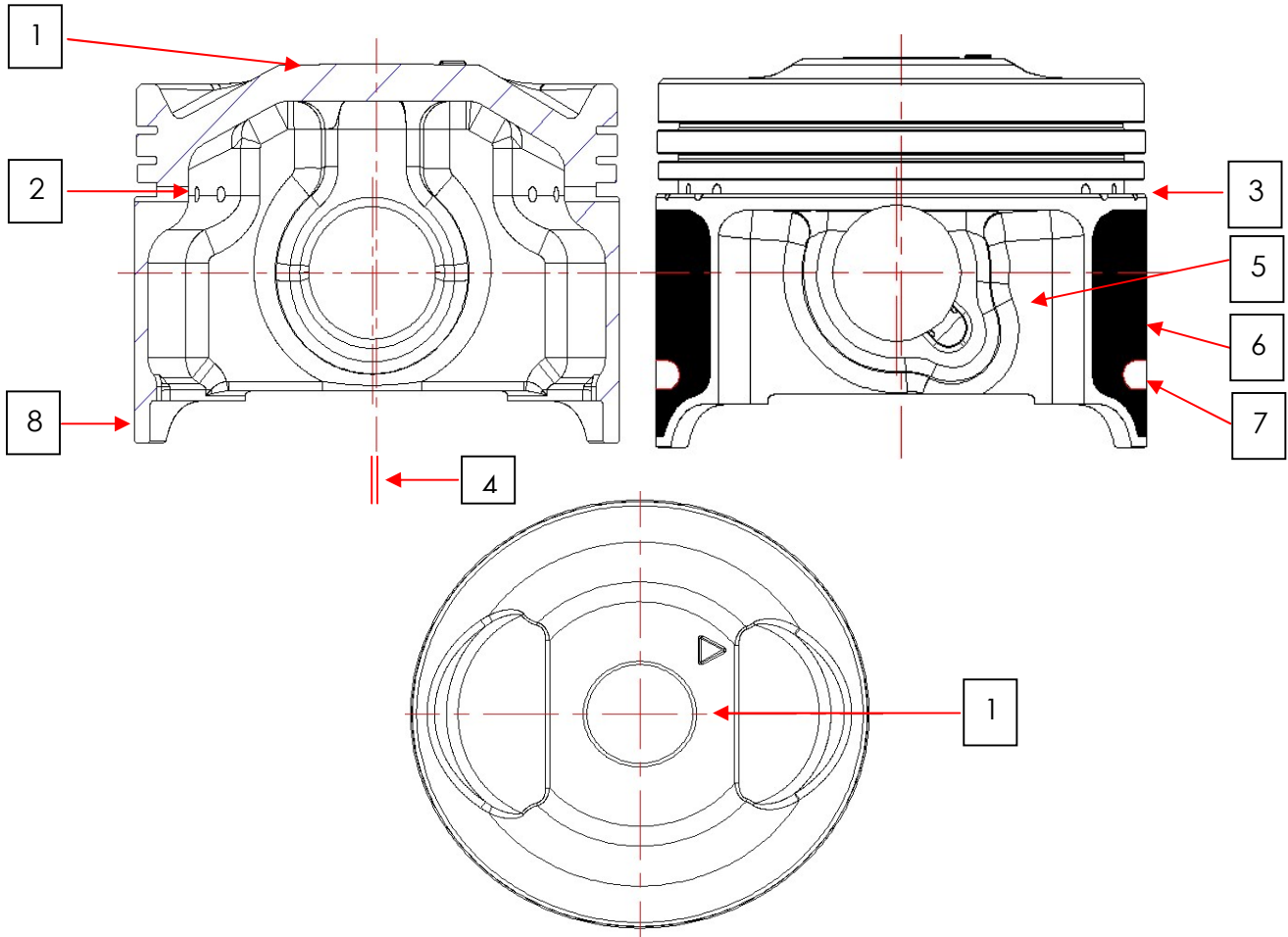


TECHNICAL BULLETIN – USHA TVS STAR CITY+ PISTON ASSEMBLY

USHA is pleased to introduce TVS Star City+ piston assembly in our Bi-wheeler product range.

This piston assembly has following special features:

PISTON:



Unique features of USHA TVS Star City+ piston are as follows:

S.No.	SPECIAL FEATURES	BENEFITS TO CUSTOMERS
1.	AS CAST CROWN: USHA TVS Star City+ 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.

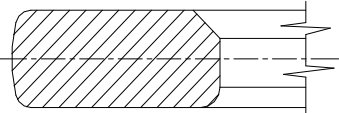
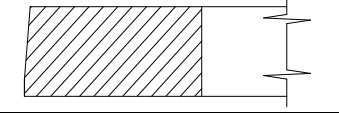
3.	CHAMFER AT BOTTOM FLANK OF OIL RING GROOVE:	<ul style="list-style-type: none"> • Better drainage of oil. • Reduction in skirt wear.
4.	PISTON- PIN BORE OFFSET: Piston pin bore offset means that the centre line of piston is slightly offset from the centre line of pin bore. Due to this offset, piston 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.	'NANO-FRIKS' COATING ON SKIRT: Skirt coated with new 'Nano-friks' coating.	<ul style="list-style-type: none"> • 'Nano-friks' coating provides better wear resistance & initial lubrication to avoid piston scuffing/seizure etc.
7.	MEASURING POINTS ON SKIRT:	<ul style="list-style-type: none"> • Provided for easy diameter verification.
8.	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.

TECHNICAL DATA- USHA TVS STAR CITY+ PISTON		
		USHA CODE→S57
Nominal Bore Diameter	mm	53.50
Piston Diameter - STD Size	mm	53.457
Recommended Piston-Liner Clearance	mm	0.043
Compression Height	mm	22.00
Total Height	mm	40.00
Piston Pin- Pin Bore Clearance	mm	+0.002 to +0.013 (Clearance Fit)

PISTON RINGS:

USHA TVS Star City+ pistons are supplied with specially designed **HPVENT** ring sets for low oil & fuel consumption.

Technical details of TVS Star City+ HPVENT ring set are as under:-

TECHNICAL DATA-USHA TVS STAR CITY+ '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	0.20-0.35	8-14	Parkerised	
Oil Ring	RIKVENT	1.50	0.10-0.60 (Rails)	4-24	Chrome Plated/ Parkerised	