

# AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED

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## ULTRASONIC FLAW DETECTION & MAGNETIC PARTICLE INSPECTION CERTIFICATE OF X-OVER

<b>Client Name:</b>	ZHONGMAN PETROLEUM ENGINEERING TECHNOLOGY(HONG KONG) CO LIMITED IRAQ	<b>Report No.:</b>	ZPEC-16-QC-24-08-RS-025
<b>Acceptance Creater:</b>	DS-1 Fifth Edition, Volume 3 CAT 5-3	<b>Date of Inspection:</b>	07.AUG.2024
<b>Work Location:</b>	PO-64	<b>RIG NAME:</b>	ZPEC-16
<b>TEST EQUIPMENT &amp; CONSUMABLE DETAILS</b>			
<b>EQ. Manufacturer/ Model:</b>	Sonatest/ D-50	<b>EQ. Serial No:</b>	I017374
<b>Calibration Due Date:</b>	15.OCT.2024	<b>Couplant:</b>	UT Gel
<b>Calibration Block Type:</b>	V1 (SR # 506233)	<b>Calibration Due Date:</b>	15.OCT.2024
<b>Transducer Angle:</b>	90 DEG, 60 DEG, 45 DEG	<b>Transducer Frequency:</b>	4 MHz/ SR. 13737
<b>Range:</b>	100 mm	<b>Reference dB:</b>	42 dB
<b>Area Scanned:</b>	Connections	<b>Material Velocity:</b>	3250 m/s, 5900 m/s
<b>White Contrast WCP-2</b>	Batch #: 220602 Manufacture: Magnaflux Exp Date: JUN,2025	<b>Technical Details</b>	Wet Visible Continuous
<b>Black Ink 7HF</b>	Batch#:220605 Manufacture: Magnaflux Exp Date: JULY.2025	<b>Coil 1200 Amp-Turns/in</b>	SC 22713 Cal.15.FEB.2024 Cal Due14.AUG.2024
<b>Fluorescent 14HF</b>	Batch #: 220306 Manufacture: Magnaflux Exp Date: March.2025	<b>A.C Hand Yoke</b>	201504053 Cal.15.FEB.2024 Cal Due14.AUG.2024
<b>Intensity Meter</b>	SR#1608000134 CAL.Date Cal. 15.FEB.2024 Cal Due 14.AUG.2024	<b>UV Black Light</b>	SR#1900084 Cal.15.FEB.2024 Cal Due14.AUG.2024
<b>LEAD GAGE</b>	SR#AH07KF0027 GAEMAKER LG-5003 Cal. 13.FEB.2024 Cal Due 12.AUG.2024	<b>THREAD PROFILE GAGE</b>	SR#21336 Cal. 13.FEB.2024 Cal Due 12.AUG.2024 SR#21335 Cal. 15.FEB.2024 Cal Due 14.AUG.2024
<b>Magnetic Particle Fluorescent 14HF Concentration:</b>	0.1 To 0.4 ML / 100 ML	<b>WMPT Light Intensity:</b>	3500 LUX
<b>Methodology:</b>	<ul style="list-style-type: none"> <li>Through Visual inspection</li> <li>Dimensional 3</li> <li>UltraSonic Flaw Detection</li> <li>MPI inspection with Ultraviolet Light</li> </ul>		

Serial No.	Description	Connection		Result Inspection			Dimensional-3 Inspection														
		Pin	Box	Pin	Box	Body	Pin					Box					Body				
							OD(In)	ID(In)	SRG φ(In)	SRG ∅(In)	Pin λ(In)	Bevel φ(In)	OD(In)	CB φ(In)	CB δ(In)	BBD φ(In)	BBL δ(In)	Bevel φ(In)	Tongspac e (In)λ	Box Lth (In)λ	Overall λ(In)
MJS2308 2249	X-OVER	NC50	5 1/2"FH	Acc.	Acc.	Acc.	7 1/8"	2 7/8"	4 23/32"	7/8"	4 7/16"	6 5/16"	7 1/8"	5 29/32"	5/8"	5 18/64"	8 1/4"	6 3/4"	-	-	43 1/8"
<b>Conclusion :</b>		<b>*01 X-Over above was found "Acceptable". At the time of Inspection (Ready for Use).</b>																			

<b>OD</b> Outside Diameter	<b>ID</b> Inside Diameter	<b>SRG</b> Stress Relief Groove	<b>CB</b> Counter Bore	<b>BB</b> Bore Back	<b>FB</b> Float Bore
<b>φ</b> Diameter	<b>λ</b> Length	<b>∅</b> Width	<b>δ</b> Depth	<b>NP.</b> Not Present	<b>NA.</b> Not Applicable
<b>EGR</b> Elevator Groove Recess	<b>SGR</b> Slip Groove Recess	<b>CR</b> Crack	<b>B</b> Bent	<b>PC</b> Premium Class	<b>RF</b> Reface
<b>GT</b> Galled Thread	<b>TP</b> Thread Pitting	<b>SP</b> Seal Pitting	<b>TD</b> Thread Damage	<b>SD</b> Seal Damage	<b>M</b> Mashed
<b>1</b> 100 % Coating	<b>2</b> 99-71 % Coating	<b>3</b> 70-40 % Coating	<b>4</b> Up to 40 %	<b>5</b> Nil	<b>WT</b> Wall Thickness
<b>Colors Code:</b>	<b>White</b> No Defects	<b>Red</b> Crack or Extreme	<b>Blue</b> Damage	<b>Green</b> Seal Damage	<b>Yellow</b> ACFM

<b>Inspector Name:</b>	RAO SOHAIL	<b>Review By</b>			
<b>Qualification:</b>	ASNT Level II NMT, PNCT	<b>Senior Inspector:</b>	M.USMAN	<b>Supervisor:</b>	M.SARWAR
<b>Signature:</b>					<b>Customer Name:</b>
					<b>Customer Signature:</b>
Original - Client Files		Copy - Area Office		QC/FN/DJ-PB/029 Rev.00 dated 07.Nov2021	

