

CULMI AIR-COND & REFRIGERATION PARTS SUPPLY SDN BHD
BACHARACH HGM-MZ GAS MONITORS INSTALLATION AT IJN DCS PLANT JALAN TUN RAZAK, K.L
INSTALLATION AND TESTING & COMMISIONING REPORTS

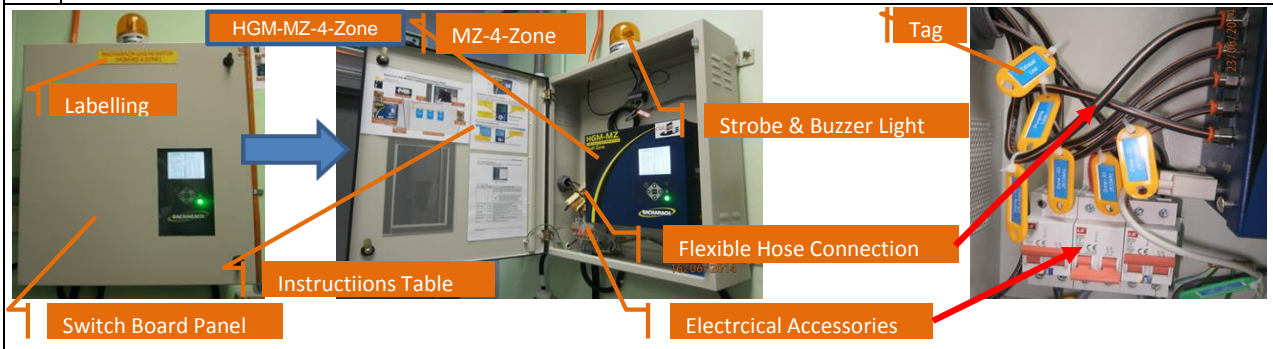
INSTALLATION	
DCS Plant (Old)	
No	Contents
1	<p>BACHARACH 3015-5331 Gas Monitor 8-Z + RD (HGM-MZ)</p> <p>a) c/w Switch Board & Electrical Accessories b) Strobe & Buzzer Light on MZ-RD c) Labelling</p> <p>d) Instructions Table e) Electrical Power Connection f) Flexible Hose Connection</p> <p>g) MZ-8-Zone & MZ-RD Signal Cable Connection h) Tag</p>
2	<p>DSC Plant (Old) Installation</p> <p>a) PCV Piping with Flexible Hose Insertion</p> <p>b) Sampling Filter Fixing (Total 8 Sampling Points [Chiller - 6 Points & Exhaust - 2 Points])</p> <p>c) Charcoal Filter & Line End Filter Fixing</p> <p>d) External Strobe Light & Exhaust Line Fixing</p> <p>e) Labelling</p> <p>f) Sticker Attachment (White For Gas & Blue For Signal)</p>

INSTALLATION

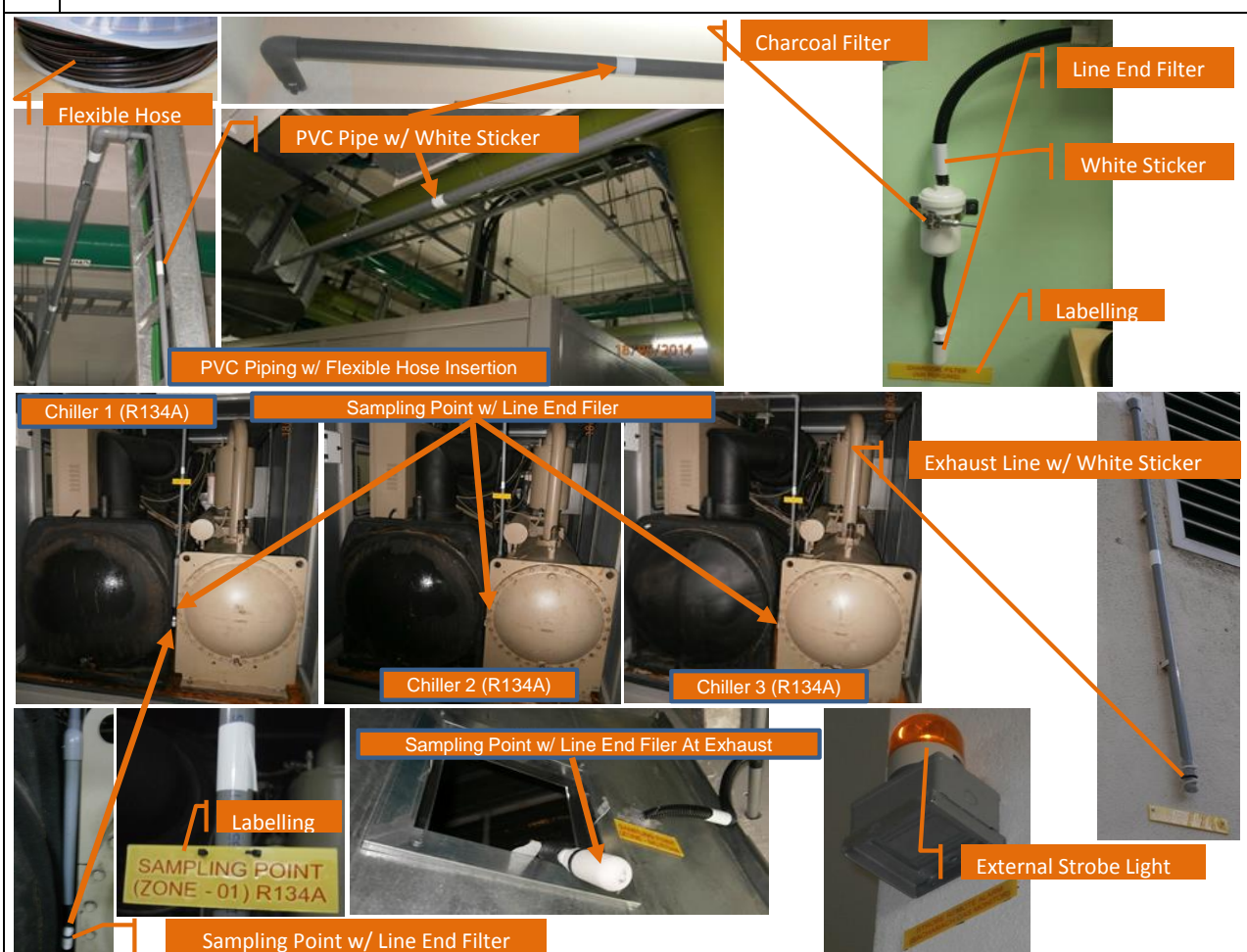
DCS Plant (New)

No	Contents
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3	BACHARACH 3015-5043 Gas Monitor 4-Zone (HGM-MZ) a) c/w Switch Board & Electrical Accessories b) Strobe & Buzzer Light on MZ-4-Zone c) Labelling d) Instructions Table e) Electrical Power Connection f) Flexible Hose Connection g) Tag
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4	DSC Plant (New) Installation a) PCV Piping with Flexible Hose Insertion b) Sampling Filter Fixing (Total 4 Sampling Points [Chiller - 3 Points & Exhaust - 1 Points]) c) Charcoal Filter & Line End Filter Fixing d) External Strobe Light & Exhaust Line Fixing e) Labelling f) Sticker Attachment (White For Gas)
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SIGNAL CABLE FIXING

DCS Plant Old To New

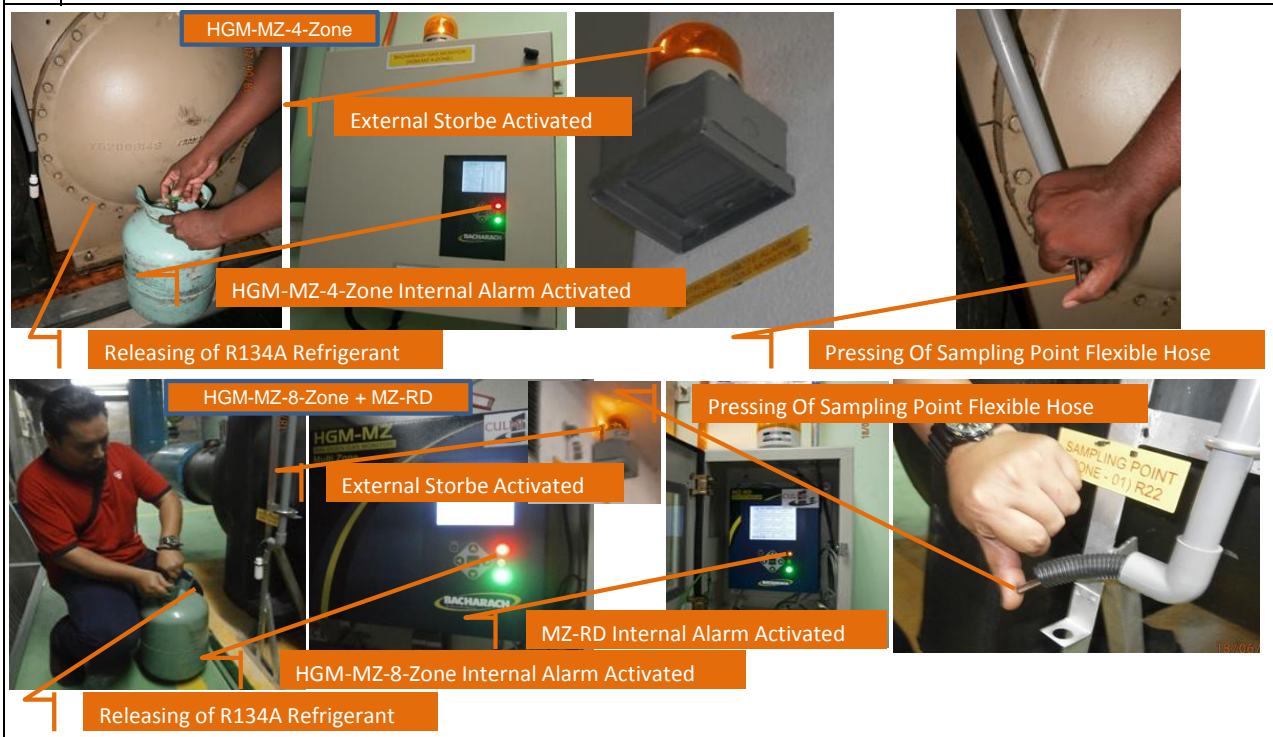
No	Contents
5	Twisted Screen Cable (Signal Cable BELDEN 8760 AWG 18) Fixing In-Between HGM-MZ-8-Zone Located At DCS Plant (Old) and MZ-RD Located At DSC Plant (New) Control Room a) GI Conduct with Blue Sticker Attachment b) Insertion of BELDEN Two Pairs Twisted Cable Into GI Conduct



TESTING & COMMISSIONING

DCS Plant Old To New

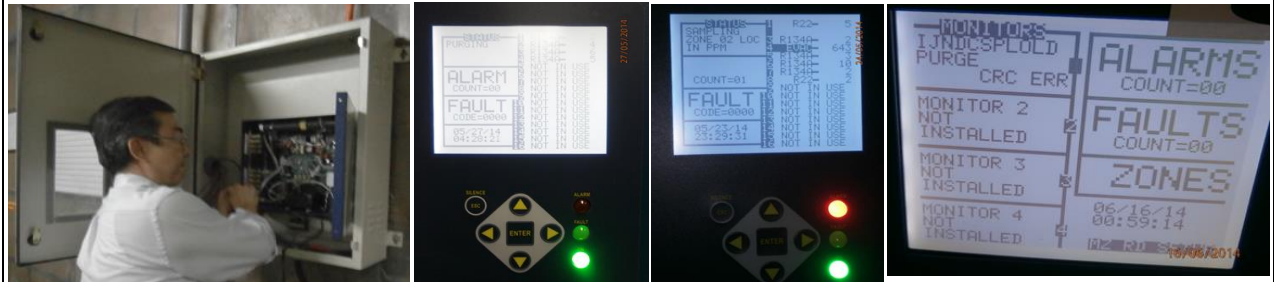
No	Contents
6	Testing & Commissioning On Gas Monitors (HGM-MZ-8-Zone + MZ-RD & HGM-MZ-4 Zone) a) Test On Refrigerant Leakage By Releasing The Refrigerants For All 12 Points b) Test On Fault By Pressing The Sampling Point Flexible Hose to Simulate The Blockage



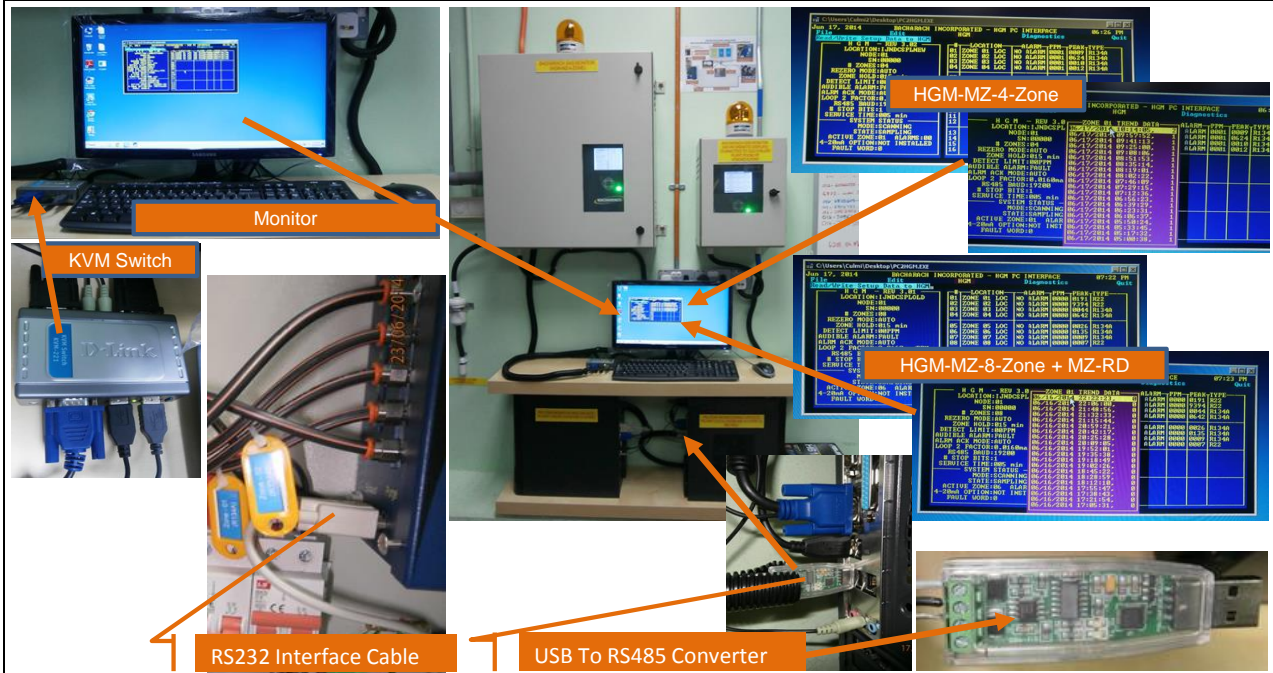
GAS MONITOR PROGRAMMING & COMPUTER SETTING

HGM-MZ-8-Zone + MZ-RD and HGM-MZ-4-Zone

No	Contents
7	Gas Monitors Programming a) Gas Monitors Leak PPM Activation - i) Leak = 50 ppm ii) Spill = 100 ppm iii) Evacuate = 150 ppm b) Chiller Refrigerant Type i) DCS Plant (Old) - Chiller 1 [R22], Chiller 2 [R134A], Chiller 3 [R134A], Exhaust [R22 & R134A] ii) DCS Plant (New) - Chiller 1 [R134A], Chiller 2 [R134A], Chiller 3 [R134A], Exhaust [R134A] c) Others - Flexible Hose Length, Fault Internal Audible & Others



8	Computer Setting-Up a) HGM Software Installation Onto PC For Both HGM-MZ-8-zone And HGM-MZ-4-Zone Respectively b) Both Gas Monitors Are Controlled By Individual Software And With One Monitor Through Switching With KVM Switch c) Leak Rate Can Be Viewed and Saved Under Trend Data Section Of The Software d) HGM-MZ-4-Zone With RS232 Interface And HGM-MZ-8-Zone + MZ-RD With USB To RS485 Converter Interface Through BMS Connection
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Prepared by,

Confirmed by,

Beh Hock Heng

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PARTS SUPPLY SDN BHD