| PHINIA | Machine Document | Format No. | PHME/001 |
|---|---|---|---|
| | | Rev. Level | 0 |
| | | Rev. Date | 01.03.2024 |

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|---|---|---|---|---|---|---|---|
| **Model :** | **P703 (28667720)Rev009; U704(28667721)Rev006; FD(42027893)Rev006; SA(42032060)Rev003; Gnome 42049149 (Rev001)** | **WI No** | **FMA03-MD-35-003** | **Operatior Skill Level Required :** 3 | **Document Dated : 18 Sept. 17** | **Revision Date:** | 20.06.2024 |
| **Machine name:** | **Umbrella valve and Clip Press to retainer** | **Operation no.** | **35** | A: Alert Supervisor for Possible Machine Alignment<br>B: Follow super visor instruction for proper handling | FIT/FUNCTION KPC<br>SAFETY/COMPLIAN-CE KPC | | |

## Product Parameters

| S. No | Product Characteristics (ड्राइंग में दिया गया है) | KPC | Product Spec./ Tolerance (पार्ट के माप का विशेष विवरण) | Measuring mode (पार्ट को चैक कैसे करें) | Sample size (कितने पार्ट चैक करने है ) | Frequency (कितनी देर में चैक करना है) | Resp (कौन चैक करेगा) | Control method (प्रोसेस पर नियंत्रण रखने का तरीका) | Reaction plan (प्रोसेस गलत होने पर क्या करें) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Correct UV Clip Part Number | | As per Model running (refer master Sample) | visual | Once | Start Of Shift/Every Changover/ | Operator | DVIS(FMA03-DVIS-35-05) | If Non-conforming part is found, place it in reject cotainer and notify team leaderr |
| 2 | Correct Umbrella Valve Part Number | | As per Model running (refer master Sample) | visual | Once | Start Of Shift/Every Changover/ | Operator | DVIS(FMA03-DVIS-35-05) | |
| 3 | Correct Retainer Part Number | | As per Model running (refer master Sample) | visual | Once | Start Of Shift/Every Changover/ | Operator | DVIS(FMA03-DVIS-35-05) | |
| 4 | Umbrella Valve Presence Verification | | UV Must seal against retainer | Visual / Flow & Vaccum Inspection | Once/100% | Start Of Shift/Every Changover/Every 2 hour. | Operator/Auto Controlled | DVIS(FMA03-DVIS-35-05) / PLC program Interlock | If machine does not detect process notify team leder |
| 5 | Snap lock Verification | | Proper Locking of UV Clip with retainer snap window | Laser beam sensor | Once/100% | Start Of Shift/Every Changover | Operator/Auto Controlled | DVIS(FMA03-DVIS-35-05)/EPVS/Machine PLC program Interlock | If sensor does not detect process notify team leder |

## Process/Set up Parameters

| S. No | Process Characteristics (प्रोसेस में चैक करना है) | KCC | Process Spec./ Tolerance (प्रोसेस के पैरामीटर का विशेष विवरण) | Measuring mode (प्रोसेस को चैक कैसे करें) | Sample size (प्रोसेस में कितने पार्ट चैक करने है) | Frequency (कितनी देर में चैक करना है) | Resp (कौन चैक करेगा) | Control method (प्रोसेस पर नियंत्रण रखने का तरीका) | Reaction plan (प्रोसेस गलत होने पर क्या करें) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Line Pressure | | **4.5 - 5.5 bar** | Pressure Switch | Once | Start Of Shift/Every Changover | Operator | DVIS | If parameter is out of specification, do not use equipment and notify team leader |
| 2 | UV Vacuum Test range | | -35 to '-43 Kpa | Pressure Switch | 100% | Continuous | Auto Controlled | DVIS/ Machine PLC program controlled | |
| 3 | UV Flow input Test Pressure | | 13±2 Kpa | pressure Switch | Once/Cont. | Every Changeover/Start of Shift/Cont. | Operator/Auto Controlled | DVIS/ Machine PLC program controlled | |
| 4 | UV Flow Test Value | | 30 to 40 LPM | Flow Meter | 5 pcs/100% | Every Changeover/Start of Shift/Cont. | Operator/Auto Controlled | DVIS/ Machine PLC program controlled | |
| 5 | Master Part Verification | | NOK1. Verifier rejected<br>OK1. Verifier Accepted | Master Cycle | Once | Every Changeover/Start Of Shift | Auto-Controlled | Machine logic tied with changeover | If machine does not ask for master cycle, inform to team leader |
| 6 | Bin Cleanliness | | Should be free from dust and contamination | Visual | Once | Every Changeover of Bin | Operator | Part feeding WI PTGW_5.3_PC_GUR_03 | Infrom supervisor and press alarm button |
| 7 | TPM checksheet Verification | | As per TPM check-sheet | Visual | Once | Start Of Shift/Every Changeover | Line Leader / Supervisor | TPM check sheet PH/MAINT/FMA-03/018 | If any abnormality, inform to supervisor |
| | | | | | | | | | |

## JOB ELEMENT SHEET

Work sequence | Safety for operator | Quality checks | Critical process for product | Error proofing

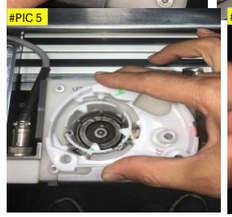
| SYM | No. | Major process step | key points | Reason | EP Applicable |
|---|---|---|---|---|---|
| | 1 | Pick up Umbrella Valve from SS tray **as shown in pic#1**<br>**Umbrella Valve को SS tray से उठाये** | Correct Umbrella Valve<br>(Part Number As Per Model Running) | Correct Umbrella valve | Visual Aid |
| | 2 | Load Umbrella Valve into the stage 1 nest Pin **as shown in pic#2**<br>**Umbrella Valve को stage 1 nest Pin में load करें** | Correct Orientation | Proper Allignment | Visual Aid |
| | 3 | Pick up retainer from bin **as shown in pic#3**<br>**retainer को bin से उठाये** | Correct Retainer<br>(Part Number As Per Model Running) | Component Matches Master Sample | Visual Aid |
| | 4 | Load Retainer over umbrella Valve in fixture **as shown in pic#4**<br>**Retainer को umbrella valve के ऊपर से fixture में लोड करें** | Correct Orientation | Proper Allignment | Confirmation Sensor |
| | 5 | Push Retainer from top side by hands to assemble umbrella valve in to Retainer **as shown in pic#5**<br>**Umbrella valve को असेंबल करने के लिए Retainer को ऊपर की तरफ से दबाए** | 1. No damage to Umbrella Valve<br>2. Umbrella valve stem has to be fully inserted | Correct Assembly | Fixture Design |
| | 6 | Get UV Clip from SS tray **as shown in pic#6**<br>**SS Tray से UV Clip उठाये** | Correct UV Clip<br>(Part Number As Per Model Running) | Correct UV Clip | Visual Aid |
| | 7 | Insert UV Clip into the Top Tool **as shown in pic#7**<br>**UV Clip को Top Tool में लगाएं** | Correct Orientation | Proper Allignment | Visual Aid |
| | 8 | Unload Retainer from nest 1 and load on nest 2 for clip insertion **as shown in pic#7**<br>**Retainer को Nest 1 से निकालकर nest 2 में लगाएं** | Correct Orientation | Proper Allignment | |
| | 9 | Activate m/c cycle: Fixture slide in forward direction thenTop Tool press clip into Retainer **Pic#8** & then Umbrella Valve test start.<br>**M/c cycle activate करें : fixture forward direction में slide करेगा Top tool UV Clip को Retainer में press करेगा और उसके बाद Umbrella Valve टेस्ट स्टार्ट होगा** | Umbrella valve presence | Umbrella Valve working | Flow and Vacuum Inspection |
| | | | UV Clip Snap Lock | Tabs Fully engaged | Laser beam sensor |
| | 10 | **Automatic :**Slide Return to home condition for unloading .<br>**Automatic :slider वापस आएगा, part unloading के लिए** | No broken/damaged tabs<br>UV Clip snap fully locked the Retainer | Tabs Fully engaged | Visual Aid |
| | 11 | Unload sub assy.from nest & do visual inspection<br>**sub assy. को unload करें और उसका visual inspection करें** | No damaged/dropped parts | Good part verification | |
| | 12 | Scrap Rejected Part. Load into Properly Identified scrap Bin. **as shown in pic#10**<br>**rejected part को reject chute में डालें** | Proper Handling of Part | Reject Part Verification | Reject chute interlocked sensor |
| | 13 | Move acceptable part to WIP. **As shown in pic#11**<br>**acceptable part को WIP में रखें** | No Damage/Drop Parts | Drop part policy | WIP Design |

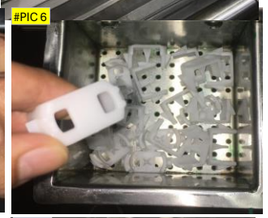
#PIC 1

#PIC 2

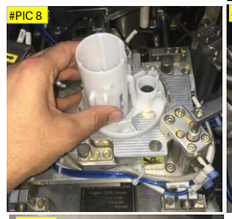
#PIC 3

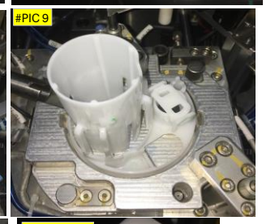
#PIC 4


#PIC 5


#PIC 6

#PIC 7


#PIC 8


#PIC 9

#PIC 9

#PIC 9

#PIC 10&11

Pic 12

Pic 13

## VISUAL AIDS

OK | NG

FUNCTIONAL REQUIREMENTS:
INSERT UMBRELLA VALVE ASM FULLY INTO RETAINER, VALVE MUST SEAL AGAINST RETAINER.

QUALITY INFORMATION:
NO VISUAL DAMAGE ON FEATURES USED AS SUPPORT FOR ASSEMBLY.

[N-2] LOCKING FEATURES MUST FULLY ENGAGE INTO MATING COUNTERPART

**Unplanned Interruption Action:** If any child part or sub assy fallen down on floor or there is electricity , or any other unplanned break down in between part processing. Take out part from machine & put it into rejection box.

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