



| REVISION HISTORY |                  |     |
|------------------|------------------|-----|
| DATE             | DESCRIPTION      | REV |
| 19/03/2024       | ORIGINAL RELEASE | A   |

| Design Review Checks     |                      | Yes | No |
|--------------------------|----------------------|-----|----|
| Chamfers                 |                      |     |    |
| Engraving                |                      |     |    |
| Material                 |                      |     |    |
| Finish                   |                      |     |    |
| Quantity                 |                      |     |    |
| TE No.                   |                      |     |    |
| Job No.                  |                      |     |    |
| Revision No.             |                      |     |    |
| Customer Name            |                      |     |    |
| IPT                      |                      |     |    |
| BOM                      |                      |     |    |
| dx/diges                 |                      |     |    |
| Loc. holes/slots offset  |                      |     |    |
| Loc. holes/slots tol.    |                      |     |    |
| Thread details           |                      |     |    |
| Assembly part list       |                      |     |    |
| Parts/fittings sourced   |                      |     |    |
| All assembly ok          |                      |     |    |
| Correspondence           |                      |     |    |
| Job No.                  | See Process Card     |     |    |
| Quantity                 | See Process Card     |     |    |
| Material                 | 316L Stainless Steel |     |    |
| Finish                   | SF1                  |     |    |
| or Denotes IPT dimension |                      |     |    |

Washer Rack Welding Requirements - Tube Section - SF1:

Only parts with full QC pass to be used in this assembly.  
All joints to be Orbital welded where possible.  
Only "hard to reach" joints to be manually TIG welded so it fully penetrates the joint.  
All external welds to be ground down smooth to look seamless - Ra max. = 0.6 micro meter Ra.  
All internal welds - Ra max. = 1.6 micro meter Ra.  
Internal Ra max. = 0.51 micro meter Ra (SF1). See Table SF-2.4-1 in ASME BPE 2019 (page 249) for full details. (except for internal welds - Ra max. = 1.6 micro meter Ra)  
Any blemishes such as porosity, pinholes, undercutting, cracks, un-fused welds are not permitted on any surface of the part. See Table SF-2.2-1 in ASME BPE 2019 (page 248) for full details.  
ASME BPE 2019 (page 248) for full details.  
Maximum size of scratches permitted - cumulative length to be less than 305mm (12") per 6.1m (20') of length or prorated and if depth less than 0.08mm (0.003 in). See Table SF-2.2-1 in ASME BPE 2019 (page 248) for full details.  
All edges to be fully deburred - both internally and externally.  
No contact permitted with internal surface during welding/polishing.  
No contact permitted with internal surface with files or other deburring/cleaning tools.  
All fabricated folds and bends to be within +/- 1.0 mm unless noted otherwise.  
All fabricated folds and bends to be within +/- 0.5 degrees unless noted otherwise.  
Weld Map drawings to be initiated and signed by welder as each weld is completed.  
All tubing to have a 0.6 degree drainage slope back to inlet - see drawing for details.  
All mounting holes to frame section to be checked on checking jig.  
External surfaces of tubing - passivated & electro polished. See Table SF-2.2-2 in ASME BPE 2019 (page 249) for full details.  
Internal surfaces of tubing - passivated only. See Table SF-2.2-2 in ASME BPE 2019 (page 249) for full details. (Note: Internal welds - Ra max. = 1.6 micro meter Ra)  
Part to be packaged before and after welding/polishing to prevent damage.  
Internal and external surfaces to be visually inspected with Borescope & under Magnifying Lamp to ensure they conform to latest ASME BPE Standards.  
Ensure IPT form is completed correctly.

APPROVED

Laminated Copy in circulation - rev A  
Customer: See Process Card  
File saved in the folder named below

| PC NO | PART NAME             | QTY |
|-------|-----------------------|-----|
| 23    | 50020-3031-002-04_DWG | 1   |
| 22    | 50020-3031-002-03_DWG | 2   |
| 21    | 50020-3031-002-02_DWG | 4   |
| 20    | 50020-3031-002-01_DWG | 1   |
| 19    | 50020-3018-002-22_DWG | 1   |
| 18    | 50020-3018-002-20_DWG | 1   |
| 17    | 50020-3018-002-19_DWG | 1   |
| 16    | 50020-3018-002-18_DWG | 1   |
| 15    | 50020-3018-002-16_DWG | 1   |
| 14    | 50020-3018-002-15_DWG | 1   |
| 13    | 50020-3018-002-13_DWG | 1   |
| 12    | 50020-3018-002-12_DWG | 1   |
| 11    | 50020-3018-002-11_DWG | 1   |
| 10    | 50020-3018-002-10_DWG | 1   |
| 9     | 50020-3018-002-09_DWG | 1   |
| 8     | 50020-3018-002-08_DWG | 1   |
| 7     | 50020-3018-002-06_DWG | 1   |
| 6     | 50020-3018-002-04_DWG | 1   |
| 5     | 50020-3018-002-03_DWG | 2   |
| 4     | 50020-3018-002-02_DWG | 1   |
| 3     | 50020-3018-002-01_DWG | 1   |
| 2     | 50020-3017-002-08_DWG | 4   |
| 1     | 50020-3017-002-03_DWG | 4   |

| Design Stamp  |         | Released: O.Fitzgerald                          |                           | Date: 19/03/2024 |
|---|---------|---|---------------------------|------------------|
| DN 050  | Name    | M.Looram  |                           | 19/03/2024       |
|   | Drawn   | C.Gilsenan                                      |                           | 19/03/2024       |
|   | Checked |   |                           |                  |
| PROPRIETARY AND CONFIDENTIAL  |         | UNLESS OTHERWISE SPECIFIED:                     |                           |                  |
| THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TECHNICAL ENGINEERING GROUP. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TECHNICAL ENGINEERING GROUP IS PROHIBITED |         | DIMENSIONS ARE IN mm                            |                           |                  |
|   |         | TOLERANCES:                                     |                           |                  |
|   |         | ANGULAR: ± 0.5°                                 |                           |                  |
|   |         | GENERAL MACHINE: ± 0.10                         |                           |                  |
|   |         | SHEET METAL: ± 0.5                              |                           |                  |
|   |         | INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5 |                           |                  |
|   |         | Title   |                           |                  |
|   |         | Main Rack - Tube Weld ASM                       |                           |                  |
|   |         | Size  | Drawing No.               | Rev              |
|   |         | A3  | 50020-3031-002 W ASM_dwg  | A                |
|   |         | Scale   | NTS Standard Washer Racks | Sheet 1 of 1     |