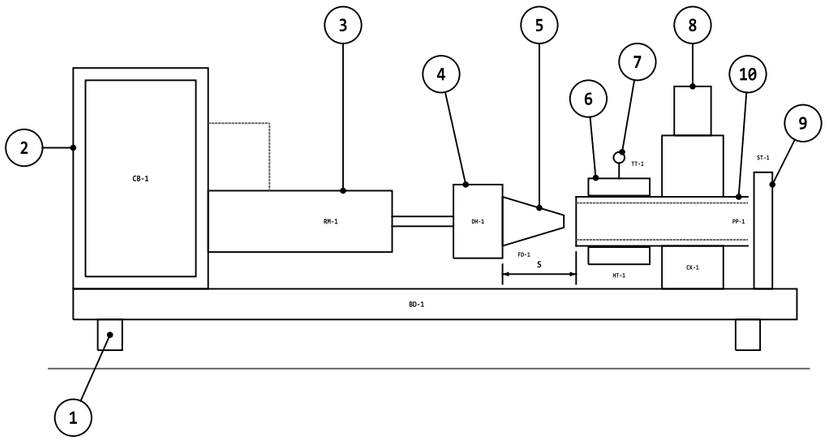
## SIDE ELEVATION - PIPE FLANGING MACHINE

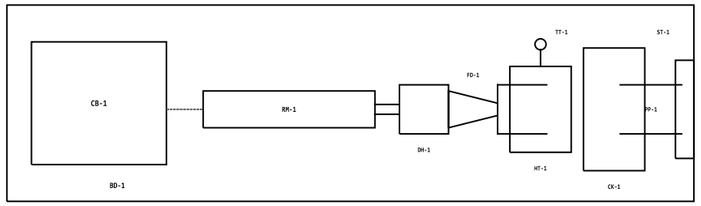
NOT TO SCALE




THE RAM RM-1 DRIVES THE FLARE DIE FD-1 ONTO THE END OF THE PIPE PP-1, HELD IN THE CLAMP CK-1 AND AGAINST THE LENGTH STOP ST-1;
THE HEATER HT-1 WARMS ONLY THE END OF THE PIPE, AND THE SENSOR TT-1 READS IT; THE STROKE S IS THE TRAVEL OF THE DIE

## PLAN - THE MACHINE FROM ABOVE

NOT TO SCALE




THE PLAN FROM ABOVE: THE RAM RM-1 AND THE DIE HOLDER DH-1 PUSH THE FLARE DIE FD-1 ONTO THE END OF THE PIPE PP-1; THE HEATER HT-1 WARMS
THE END AND THE SENSOR TT-1 READS IT; THE CLAMP CK-1 HOLDS THE PIPE AND THE LENGTH STOP ST-1 SETS HOW FAR IT STANDS OUT

## NOTES

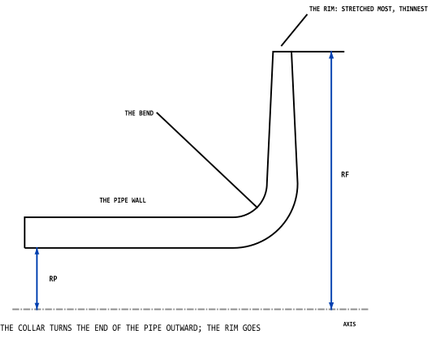
1. REFERENCE ARRANGEMENT OF A PIPE FLANGING MACHINE. LETTERS ARE QUANTITIES SET BY DESIGN: NO SIZE, FORCE, PRESSURE, SPEED, TEMPERATURE, COUNT OR TIME VALUE IS GIVEN.
2. THE SIDE ELEVATION SHOWS THE BED BD-1, THE CABINET CB-1, THE RAM RM-1, THE DIE HOLDER DH-1 WITH THE FLARE DIE FD-1, THE PIPE PP-1 WITH ITS HEATER HT-1 AND SENSOR TT-1, THE CLAMP CK-1 AND THE LENGTH STOP ST-1; THE STROKE S IS A LETTER. THE PLAN SHOWS THE SAME MACHINE FROM ABOVE.
3. DETAIL A: THE COLLAR, WITH THE PIPE RADIUS RP AND THE RIM RADIUS RF. DETAIL B: CLAMP AND CENTRING. DETAIL C: THE TWO STAGES, THE FLARE DIE FD-1 AND THE FINISHING DIE FN-1. NO PERSON IS DRAWN.
4. THE SEQUENCE AND THE CURVES ARE ON SHEET 002. THE HYDRAULIC POWER UNIT, THE HEATER AND THE TEMPERATURE SENSOR ARE CATALOGUE ITEMS, BOUGHT IN. THE MACHINE DOES NOT CHOOSE THE PIPE AND DOES NOT REPLACE THE JOINT DESIGN OR THE PROOF OF THE PIPEWORK.

## ITEMS

| ITEM | DESCRIPTION |
|---|---|
| 1 | BED BD-1 ON FEET |
| 2 | CABINET CB-1, SUPPLY AND CONTROL |
| 3 | RAM RM-1 |
| 4 | DIE HOLDER DH-1 |
| 5 | FLARE DIE FD-1, FINISHING DIE FN-1 |
| 6 | HEATER HT-1 |
| 7 | TEMPERATURE SENSOR TT-1 |
| 8 | CLAMP CK-1 |
| 9 | LENGTH STOP ST-1 |
| 10 | THE PIPE PP-1, THE WORK |

## DETAIL A - THE COLLAR

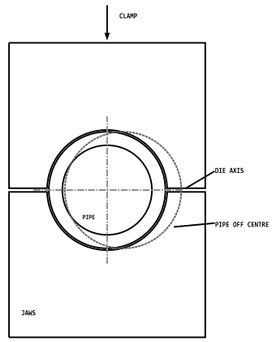
NOT TO SCALE




THE COLLAR TURNS THE END OF THE PIPE OUTWARD; THE RIM GOES
ROUND THE LARGER RADIUS RF WHERE THE PIPE WENT ROUND RP, SO
THE RIM STRETCHES MOST AND THE WALL THERE IS THINNEST; HOW
FAR IT MAY STRETCH DEPENDS ON THE FLARE ALONE

## DETAIL B - CLAMP AND CENTRING

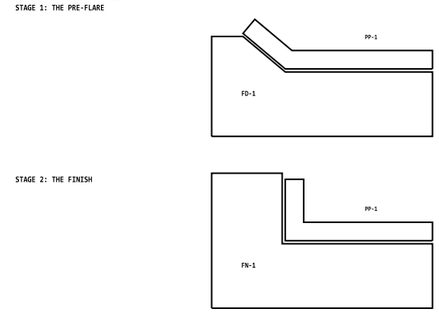
NOT TO SCALE




THE CLAMP HOLDS THE PIPE WITHOUT MARKING IT AND KEEPS IT
CENTRED ON THE DIE; A PIPE HELD OFF CENTRE IS STRETCHED MORE
ON ONE SIDE, SO THAT SIDE OF THE COLLAR THINS MORE AND THE
FACE IS NOT SQUARE

## DETAIL C - THE TWO STAGES

NOT TO SCALE




THE PRE-FLARE TURNS THE END OUT GENTLY; THE FINISHING DIE
THEN PRESSES THE FACE FLAT. THE METAL FLOWS EVENLY AND DOES
NOT PILE UP AT THE ROOT, BUT THE RIM IS STRETCHED NO MORE
THAN THE FLARE ASKS: STAGES SPREAD THE FLOW, NOT THE STRAIN

**REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION**

**NEOMETRIX DEFENCE LIMITED**
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**PIPE FLANGING MACHINE - REFERENCE CONFIGURATION**

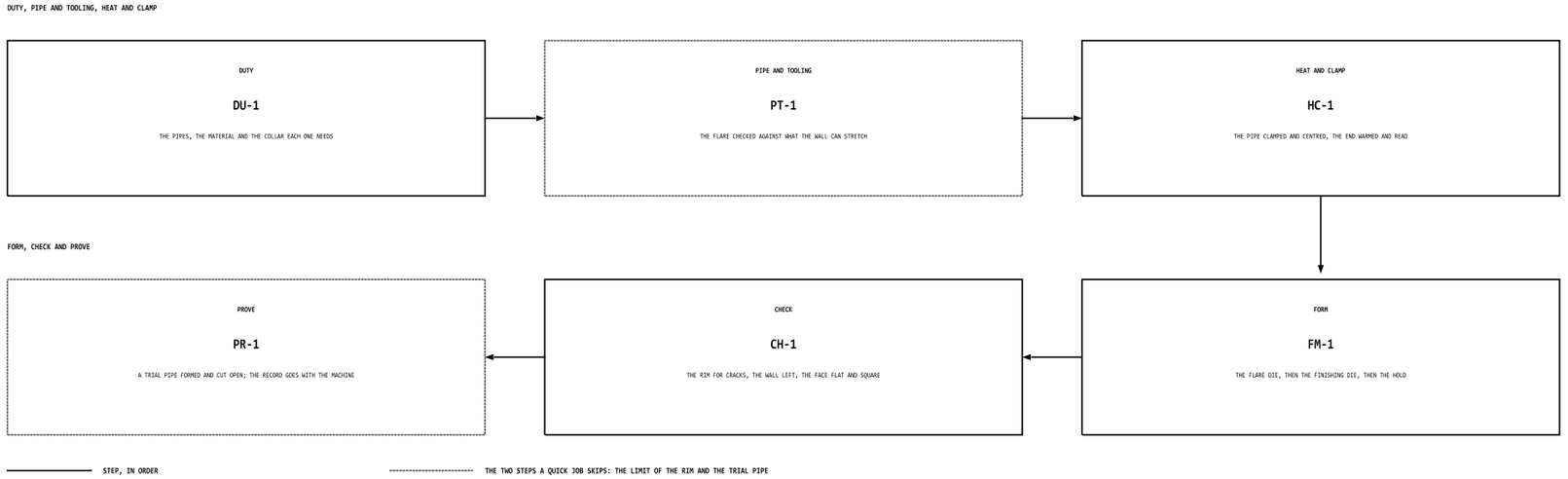
**ARRANGEMENT AND DETAILS**

THE MACHINE, THE COLLAR AND THREE DETAILS

| DWG NO | SCALE @ A3 | SHEET | REV |
|---|---|---|---|
| NMX-PFM-123-001 | NTS | 1 OF 2 | A |
| DATE | UNITS | DRAWN | STATUS |
| 24-11-2026 | TAGS ONLY | NMX-DO | REFERENCE |

# SEQUENCE OF A JOB - PIPE FLANGING MACHINE

NOT TO SCALE

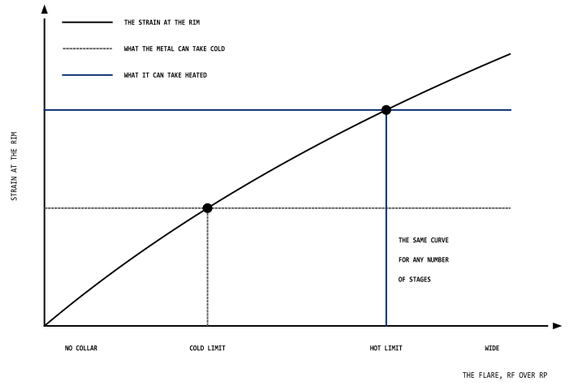



## NOTES

1. REFERENCE SEQUENCE AND CURVES OF A PIPE FLANGING MACHINE. TAGS AND LETTERS ONLY: NO SIZE, FORCE, PRESSURE, SPEED, TEMPERATURE, COUNT OR TIME VALUE IS GIVEN.
2. THE SEQUENCE: DUTY DU-1, PIPE AND TOOLING PT-1 WITH THE FLARE CHECKED AGAINST WHAT THE WALL CAN STRETCH, HEAT AND CLAMP HC-1, FORM FM-1 WITH THE FLARE DIE AND THE FINISHING DIE, CHECK CH-1, AND PROVE PR-1 WITH A TRIAL PIPE FORMED AND CUT OPEN.
3. DETAILS A TO C ARE COMPUTED FROM SIMPLE RELATIONS IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT. THE ARRANGEMENT IS ON SHEET 001.
4. THE PIPE, THE MATERIAL AND THE FLARE COME FROM THE DUTY OF THE JOINT. THE MACHINE DOES NOT CHOOSE THE PIPE AND DOES NOT REPLACE THE JOINT DESIGN OR THE PROOF OF THE PIPEWORK.

## DETAIL A - THE RIM STRETCHES

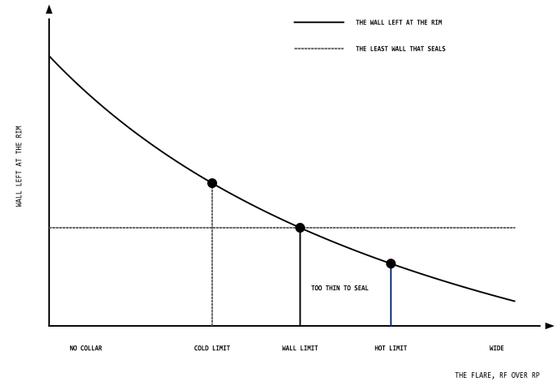
NOT TO SCALE - COMPUTED




THE STRAIN AT THE RIM DEPENDS ON THE FLARE ALONE; HEAT RAISES WHAT THE METAL CAN TAKE, BUT NO NUMBER OF STAGES MOVES THE CURVE; COMPUTED IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT

## DETAIL B - THE WALL THINS

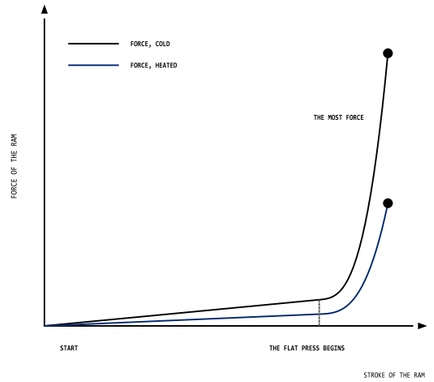
NOT TO SCALE - COMPUTED




AS THE RIM STRETCHES ROUND, THE WALL THERE THINS WITH THE FLARE; HEAT LETS THE METAL TAKE A WIDER FLARE, BUT THE WALL LEFT MUST STILL SEAL, SO PAST THE WALL LIMIT THE COLLAR IS TOO THIN EVEN WHEN HEATED; COMPUTED, RELATIVE UNITS: A PICTURE, NOT A MEASUREMENT

## DETAIL C - THE FLAT PRESS

NOT TO SCALE - COMPUTED




THE COLLAR IS TURNED OUT WITH A GENTLE FORCE, THEN PRESSED FLAT AGAINST THE FACE OF THE DIE, AND THAT LAST OF THE STROKE NEEDS THE MOST FORCE; HEAT LOWERS IT; COMPUTED IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

**NEOMETRIX DEFENCE LIMITED**

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**PIPE FLANGING MACHINE - REFERENCE CONFIGURATION**

**SEQUENCE AND CURVES**

THE SEQUENCE OF A JOB AND THE CURVES OF THE IDEA

| DWG NO | SCALE @ A3 | SHEET | REV |
|---|---|---|---|
| NMX-PFM-123-002 | NTS | 2 OF 2 | A |
| DATE | UNITS | DRAWN | STATUS |
| 24-11-2026 | TAGS ONLY | NMX-DO | REFERENCE |