
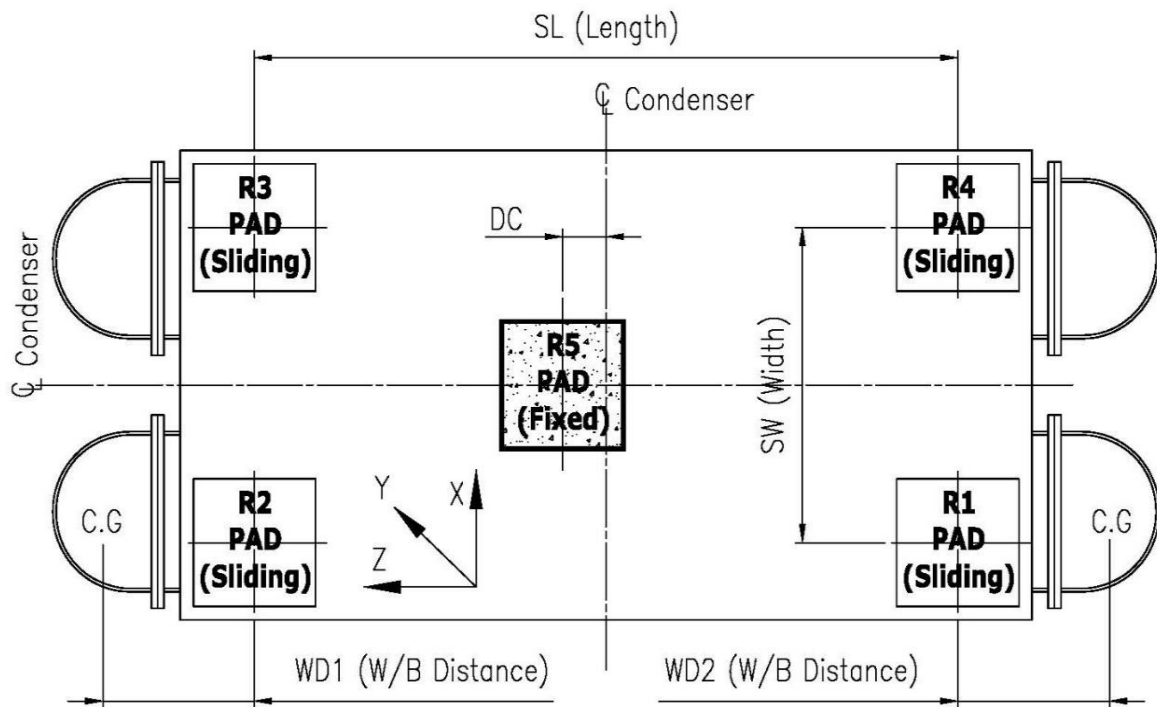


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5. SUPPORT PAD ORIENTATION OF CONDENSER



Where)

| | | | |
|---|---|-------|-----------|
| SL (Length of Foundation Pad Center) | | 9,714 | mm |
| SW (Width of Foundation Pad Center) | | 5,960 | mm |
| WD1 (Distance of CG for Left Side Waterbox) | | 951 | mm |
| WD2 (Distance of CG for Right Side Waterbox) | | 1,193 | mm |
| TL (Distance of CG for Transition) | X | 493 | Z -219 mm |
| EL (Distance of CG for Expansion Joint) | X | 0 | Z 0 mm |
| NL (Distance of CG for Extended Neck) | X | 0 | Z 0 mm |
| DC (Distance of R5 from Condenser Center at Z-Dir.) | | 0 | mm |

(Left : + , Right : -)


Note)

X-Axis : Perpendicular to Tube , Y-Axis : Up and Down , Z-Axis : Parallel to Tube

6. WEIGHT LOAD CALCULATION OF CONDENSER

6.1 Operating Vacuum Load Calculation

$$\begin{aligned}
 P_{vo} \text{ (Load for Vacuum Oper.)} &= A_{\text{EXD}} \times P_{\text{vacuum}} = \frac{408,765}{38,760,000} \text{ kgf/mm}^2 \\
 \text{STG Exhaust Duct Inside Area (A}_{\text{EXD}}\text{)} &= \frac{5,700 \text{ Width or Dia.} \times 6,800 \text{ Length}}{15 \text{ psi}} = \frac{38,760,000}{0.0105} \text{ mm}^2 \\
 P_{\text{vacuum}} \text{ (F.V Pressure)} &= \frac{0.0105}{0.0105} \text{ kgf/mm}^2
 \end{aligned}$$

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6.2 Summary Table of Weight Load


(Unit : kgf)

| Condition | R1 | R2 | R3 | R4 | R5 | Remark |
|--|--------|--------|--------|--------|---------|--------|
| Empty (Note.1) | 31,092 | 26,332 | 27,659 | 32,545 | 142,372 | |
| Operation with Vacuum (Note.2) | 20,382 | 12,604 | 13,931 | 21,835 | -41,517 | |
| Operation without Vacuum (Note.3) | 58,704 | 50,926 | 52,253 | 60,156 | 213,961 | |
| One Bundle Operation with Vacuum (Note.4) | 17,607 | 10,583 | -3,138 | 2,502 | -58,968 | |
| One Bundle Operation without Vacuum (Note.5) | 55,929 | 48,905 | 35,183 | 40,823 | 196,510 | |
| Flooded (Note.6) | 86,980 | 80,682 | 88,466 | 95,500 | 532,372 | |

| | | | |
|---|---|---------|-----|
| Total Empty Weight (Wte) | = | 260,000 | kgf |
| Total Operating Weight with Vacuum (Wto) | = | 27,235 | kgf |
| Total Operating Weight without Vacuum (Wto) | = | 436,000 | kgf |
| Total One Bundle Operating with Vacuum Weight (Wtoh) | = | -31,415 | kgf |
| Total One Bundle Operating without Vacuum Weight (Wtoh) | = | 377,350 | kgf |
| Total Flooded Weight (Wtf) | = | 884,000 | kgf |

Note)

1. Condenser shell and tube side are empty with atmospheric pressure in condenser ; i.e.. No Vacuum
2. The bundles are in operation with hotwell at normal liquid level and condenser shell side is under vacuum. Circulating water expansion joints are assumed to be tied.
; i.e.. No Hydraulic forces.
3. Condenser shell side is under no vacuum. The other conditions are the same note.2
4. The conditions is defined as only one(1) bundle in operation.
(Base of Operating Bundle is R1,2 Pad side)
Hotwell is at normal liquid level and condenser shell side is under vacuum.
5. Condenser shell side is under no vacuum. The other conditions are the same note.4
6. Water filled for field hydrostatic test in shell side only (tube side empty).
7. The Negative signs in above tables indicate Up-Lift.

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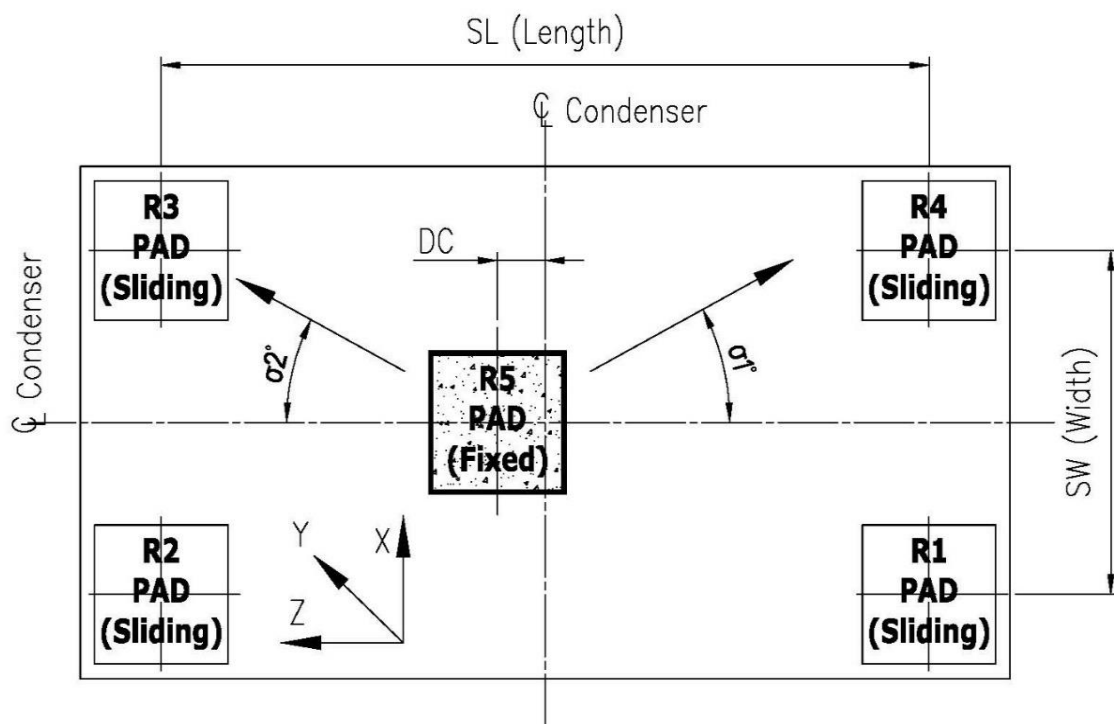
7. FRICTION LOAD CALCULATION OF CONDENSER

7.1 Friction Factor Definition

Friction Factor are based on friction factor of teflon plate with condenser at the load and seismic condition.

FFspad (Friction Factor for Sliding Pad) = 0.1

7.2 Direction & Angle of Pad Orientation for Friction Factor



σ_1° : Angle from Fixed (R5) to Sliding Point (R1,4) = 32 °
 σ_2° : Angle from Fixed (R5) to Sliding Point (R2,3) = 32 °

Note)

- 1) If load of each pad was negative value (Up-lift load) , Friction load was None.
- 2) Fixed Point is Center Pad (R5)