Both concepts handle similar thermal heating power ($P_{\text{heat}}$), and require large total radiation fraction ($f_{\text{rad}} = P_{\text{rad}}/P_{\text{heat}} \geq 80\%$) in order to reduce the peak heat load ($\leq 10 \text{ MWm}^{-2}$).

**Divertor power handling is determined by requirements of $f_{\text{rad}}^\text{main}$ and the plasma performance.**

**JA DEMO challenge (steady-state operation):**
Lower $I_p$ and higher $HH$ with ITER-level $f_{\text{rad}}^\text{main}$

$\Rightarrow$ Large divertor power handling: $P_{\text{sep}}/R \sim 30\text{ MWm}^{-1}$

**EU DEMO challenge (pulse operation):**
Higher $I_p$ and ITER-level $HH$ with large $f_{\text{rad}}^\text{main}$ by high-Z seeding

$\Rightarrow$ ITER-level $P_{\text{sep}}/R = 17\text{ MWm}^{-1}$

**Same leg length (1.6 m: longer than ITER) but different geometry** (JA: ITER-like closer baffle, EU: rather open without dome and baffle) were proposed as baseline designs.

**Power exhaust simulations of** $P_{\text{sep}}$ ~ JA: 250-300 MW, EU: 150-200MW

with Ar seeding have been performed

**Integrated design of divertor target, cassette and coolant pipe routing** has been developed:
water cooled ITER-like target (W-PFC and Cu-alloy heat sink) is a common baseline design.