

			Geometry:		Physics:	
Run title	--> example qh-mode plasma scenario		R_0	= 9.337 m	I_p	= 18.52 MA
PROCESS Version	--> 1.0.17		a	= 3.012 m	Vacuum B_T at R_0	= 5.303 T
Date:	--> 18/03/2020		A	= 3.1	q_{95}	= 3.5
Time:	--> 13:18		K_{95}	= 1.65	β_N , thermal	= 2.336 % m T MA ⁻¹
User:	--> apearce		δ_{95}	= 0.3333	β_N , total	= 2.815 % m T MA ⁻¹
Optimising:	--> Plasma major radius		Surface area	= 1548 m ²	β_P , thermal	= 1.066
Plasma composition:			Plasma volume	= 2811 m ³	β_P , total	= 1.285
Number densities relative to electron density:			No. of TF coils	= 16	$\langle t_e \rangle$	= 12.88 keV
D + T	= 0.8377		inboard blanket+shield	= 1.055 m	$\langle n_e \rangle$	= 7.125e+19 m ⁻³
He	= 0.06844		ouboard blanket+shield	= 1.782 m	$\langle n_{e, line} \rangle / n_G$	= 1.2
Xe	= 0.0004608		Fusion power	= 2169 MW	$T_{e0} / \langle T_e \rangle$	= 2.274
W	= 5e-05				$n_{e0} / \langle n_{e, vol} \rangle$	= 1.275
Colour Legend:					Z_{eff}	= 2.384
ITR					$n_Z / \langle n_{e, vol} \rangle$	= 0.0005108
OP					τ_e	= 3.567 s
					H-factor	= 1.1
					Scaling law	= IPB98(y,2)
Coil currents etc:			Power flows:		Neutral Beam Current Drive:	
PF 1	= 16.18 MA		Nominal neutron wall load	= 1.031 MW m ⁻²	Steady state auxiliary power	= 76 MW
PF 3	= -8.492 MA		Normalised radius of 'core' region	= 0.75	Power for heating only	= 76 MW
PF 5	= -5.597 MA		Electron density at pedestal	= 5.849e+19 m ⁻³	Bootstrap fraction	= 0.3846
Startup flux swing	= 377.2 Wb		r/a at density pedestal	= 0.94	Auxiliary fraction	= 5.672e-05
Available flux swing	= -650.4 Wb		Helium fraction	= 0.06844	Inductive fraction	= 0.6154
Burn time	= 2 hrs		Core radiation	= 122.3 MW	NB gamma	= 0.2853 10 ²⁰ A W ⁻¹ m ⁻²
TF coil type is WST Nb3Sn			Total radiation	= 314.3 MW	NB energy	= 1000 keV
Peak field at conductor (w. rip.)	= 11.98 T		Nuclear heating in blanket	= 1673 MW	Plasma heating used for H factor	= 367.7 MW
I/I _{crit}	= 0.6452		Nuclear heating in shield	= 1.645 MW	$\frac{P_{div}}{R_0}$	= 18.82 MW m ⁻¹
TF Temperature margin	=ERROR! Var missing		Power to divertor	= 175.8 MW	$\frac{P_{div}}{\langle n \rangle R_0}$	= 26.42 ×10 ⁻²⁰ MW m ²
CS Temperature margin	= 3.902 K		H-mode threshold	= 116.5 MW	$\frac{P_{div}}{P_{LH}}$	= 1.509
Conduit Von Mises stress	=ERROR! Var missing		Divertor life	= 4.216 years	H* (non-rad. corr.)	= 0.9895
Case Von Mises stress	=ERROR! Var missing		Primary (high grade) heat	= 2882 MW	Costs	
Allowable stress	= 5.8e+08 Pa		Gross cycle efficiency	= 37.5 %	Cost of electricity	=ERROR! Var missing
Mass per TF coil	= 1.531e+06 kg		Net cycle efficiency	= 31.41 %		
			Gross electric power	= 1081 MW		
			Net electric power	= 500 MW		
			Fusion-to-electric efficiency $\frac{P_{e, net}}{P_{fus}}$	= 23.05 %		

- CS coil
- CS comp
- TF coil
- Th shield
- VV & shield
- Blanket
- First wall
- Plasma
- PF coils
- NB duct shield
- cryostat

