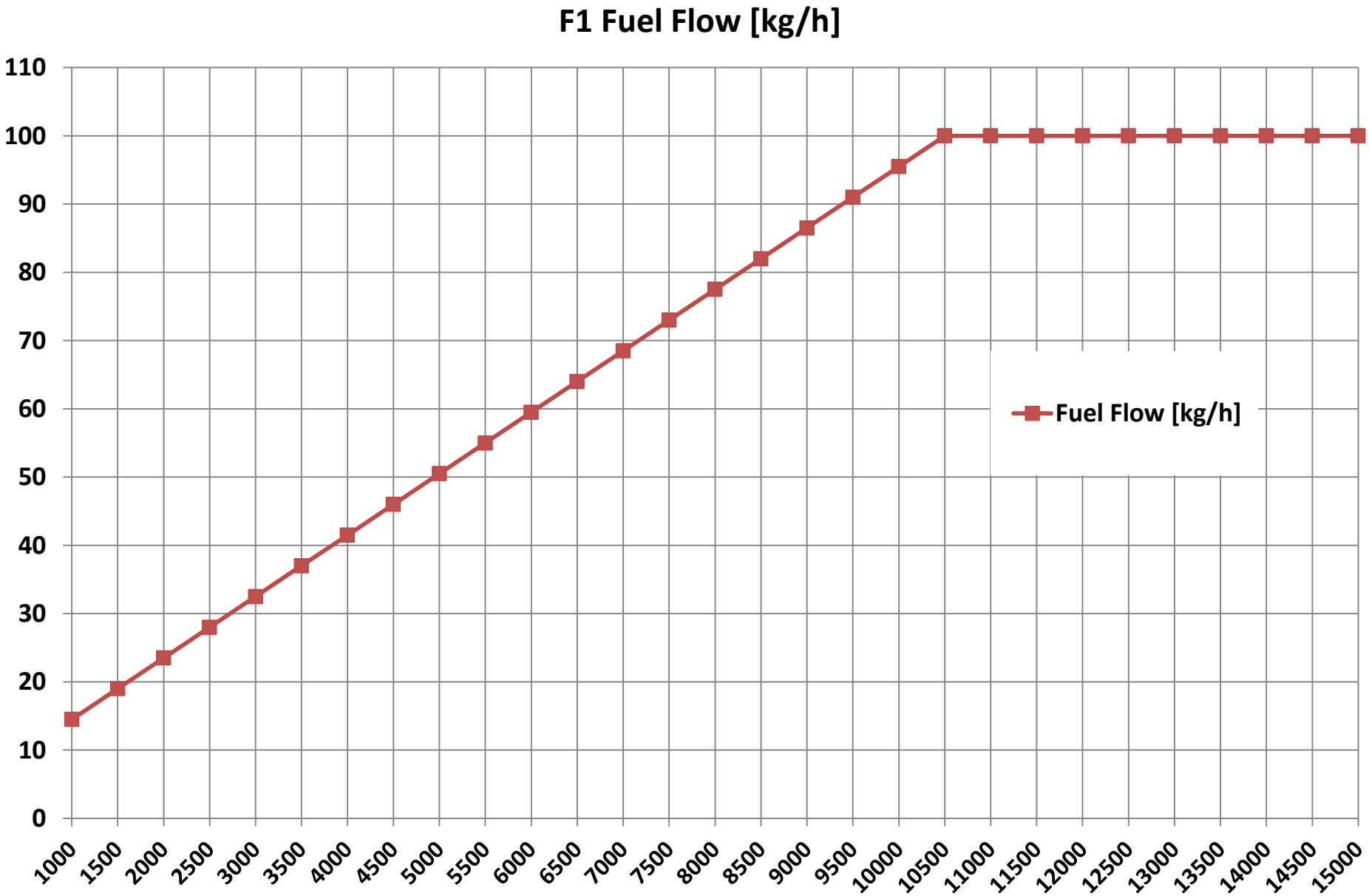
Neue Formel 1 Technologie

Mario Illien, Ilmor AG

F1 Antrieb 2013 / 2014

2013	2014
2.4 l 90° V8 NA	1.6 l 90° V6 DI Turbo
18’000 min^{-1}	15’000 min^{-1}
Bohrung 98 mm max	Bohrung 80 mm
4 Ventile/Zylinder	4 Ventile/Zylinder
Kraftstofftank nicht limitiert	100 kg/Rennen
Kraftstoffluss frei	Kraftstoff 100 kg/h über 10’500 min^{-1}
8 Motoren/Saison	5 Motoren/Saison
KERS 60 kW, 0.4 MJ/Runde	ERS 120 kW, 4 MJ/Runde
Gewicht Motor/CG 95 kg /165	Gewicht Power Unit/CG 145 kg/200


F1 Fuel Flow [kg/h]
110
100
90
80
70
60
50
40
30
20
10
0
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
8000
8500
9000
9500
10000
10500
11000
11500
12000
12500
13000
13500
14000
14500
15000
Fuel Flow [kg/h]

Power Unit

1.6 l 4 Stroke V6 90° DI Turbo Engine + ERS
Overall weight Power Unit 145 kg

ES	**Energy Store 20 – 25 kg**
MGU	**Motor Generator Control Unit**
MGU-H	**Motor Generator Unit-Heat**
MGU-K	**Motor Generator Unit-Kinetic**

MGU H

TURBOCHARGER

INTERCOOLER

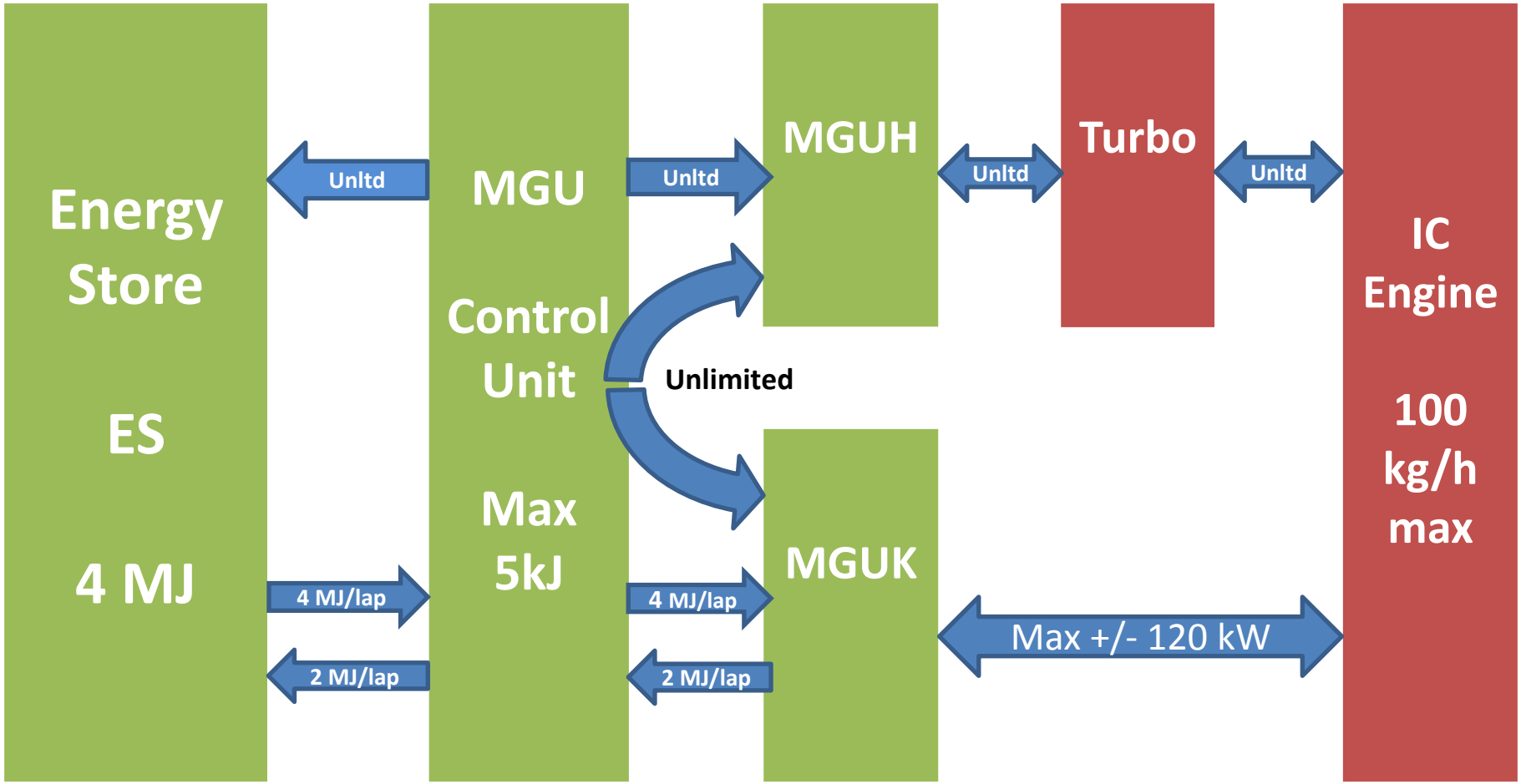
ENERGY STORE

MGU K

F1technical.net

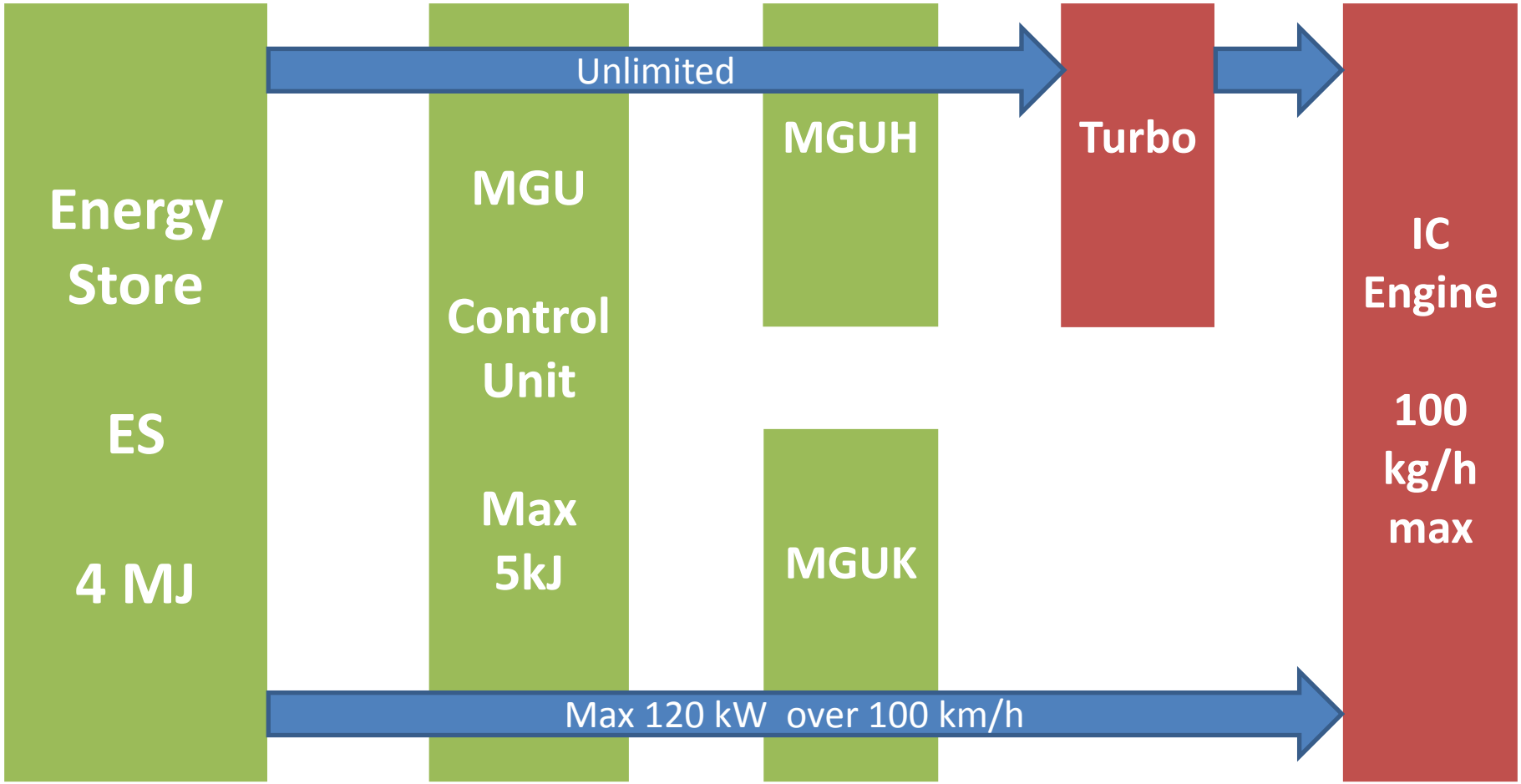
Power Unit Energy Flow

ERS - Engine



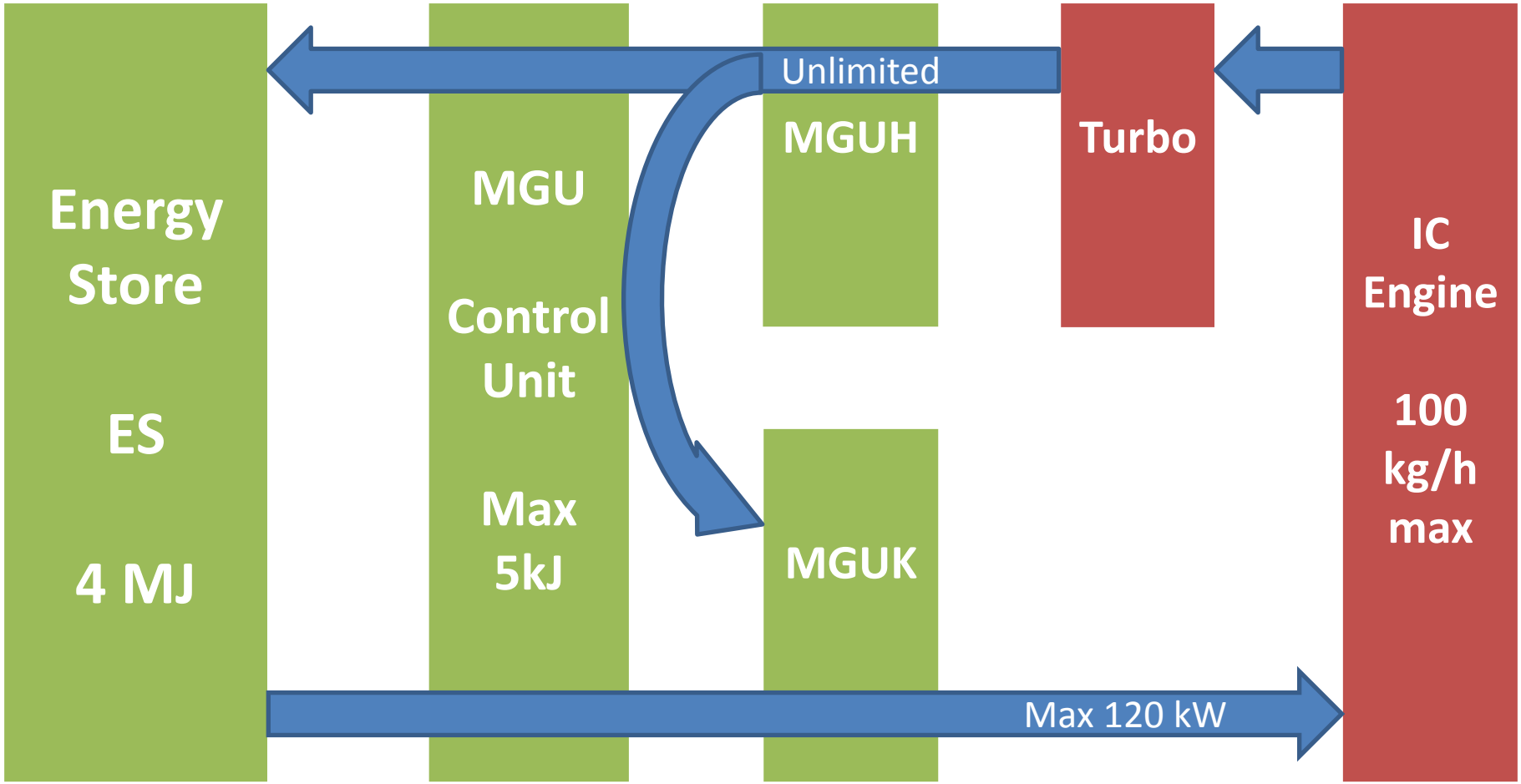
Power Unit Energy Flow Start

ERS - Engine



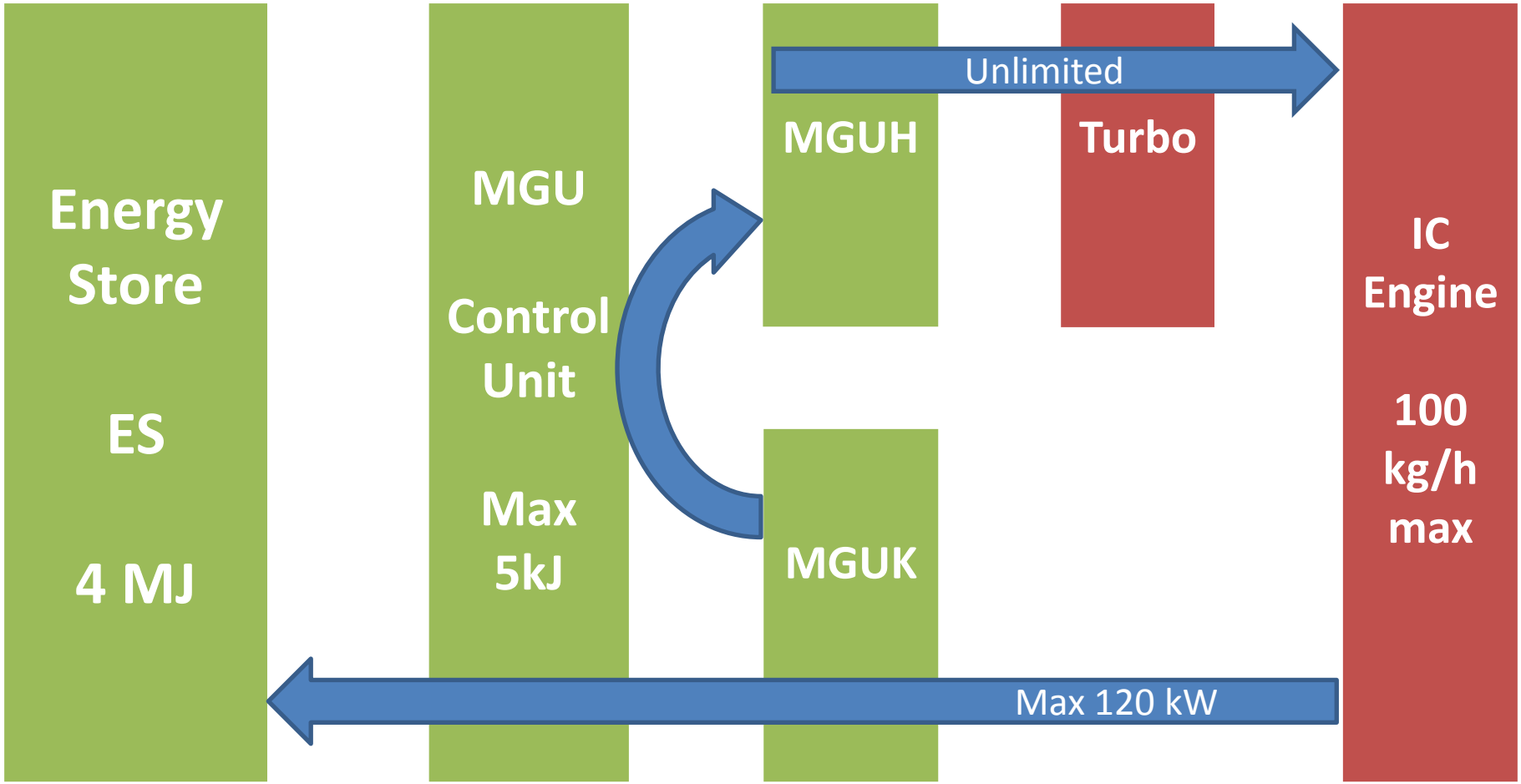
Power Unit Energy Flow Full Throttle

ERS - Engine



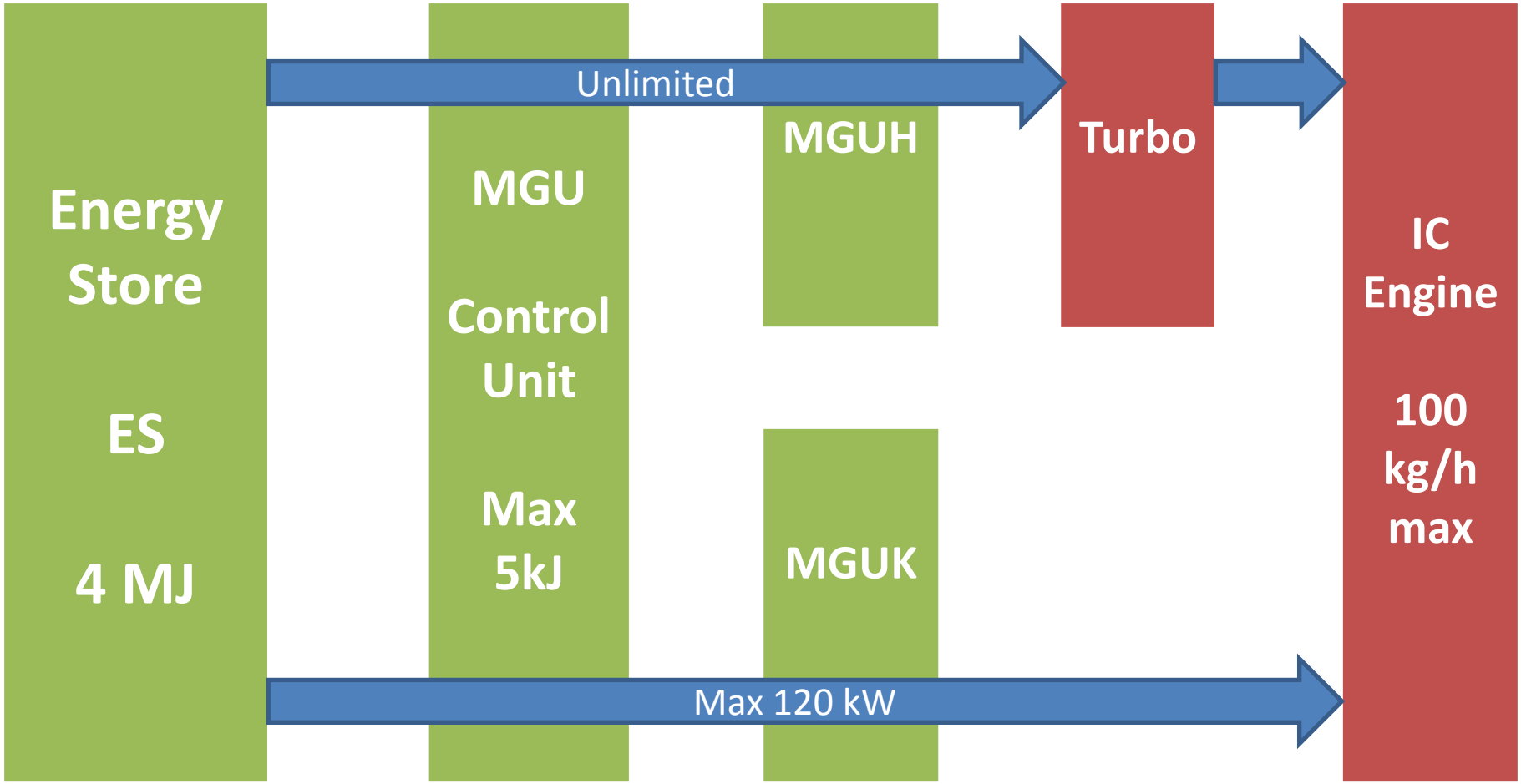
Power Unit Energy Flow Recovery

ERS - Engine



Power Unit Energy Flow Free Load

ERS - Engine

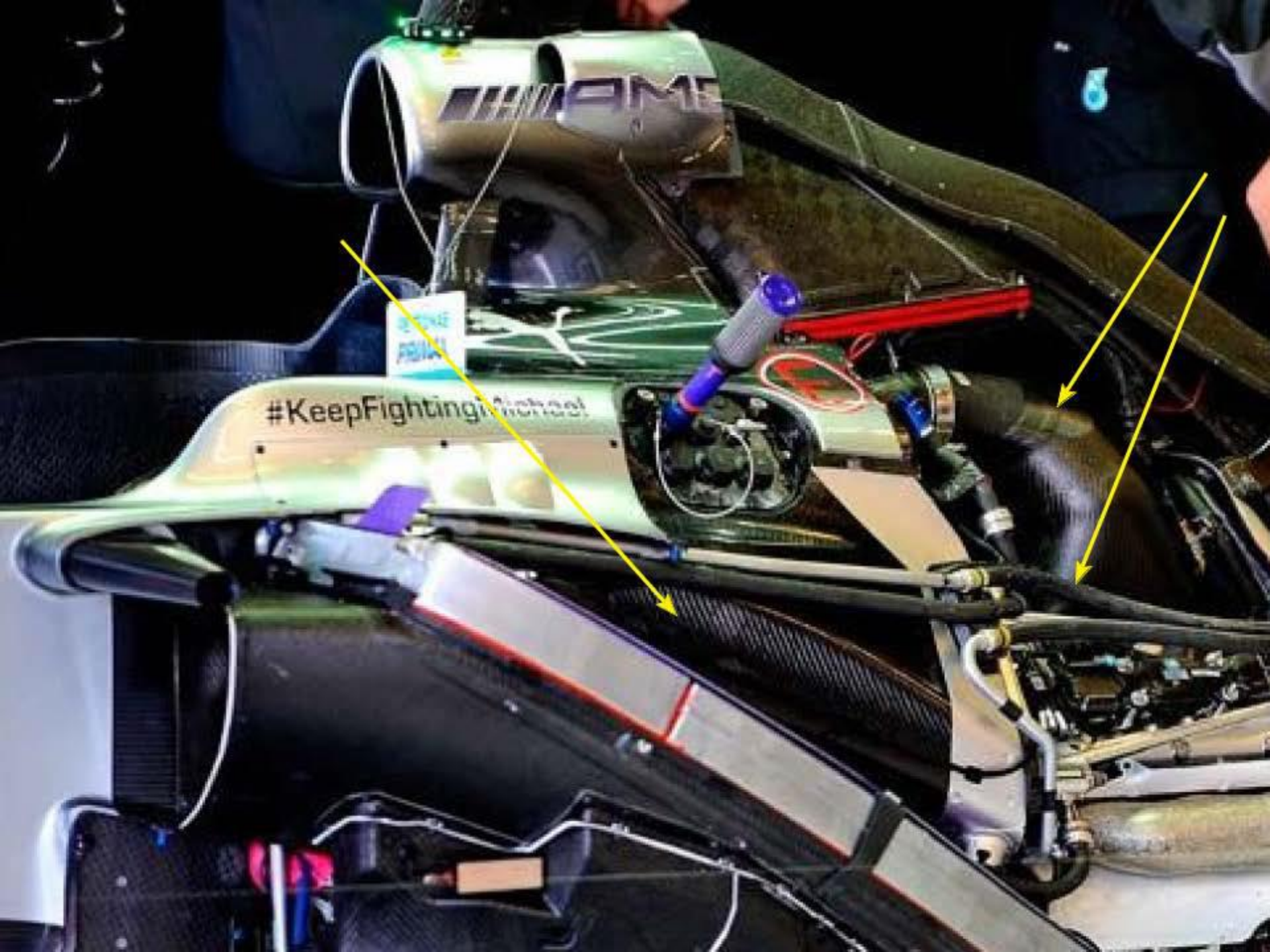


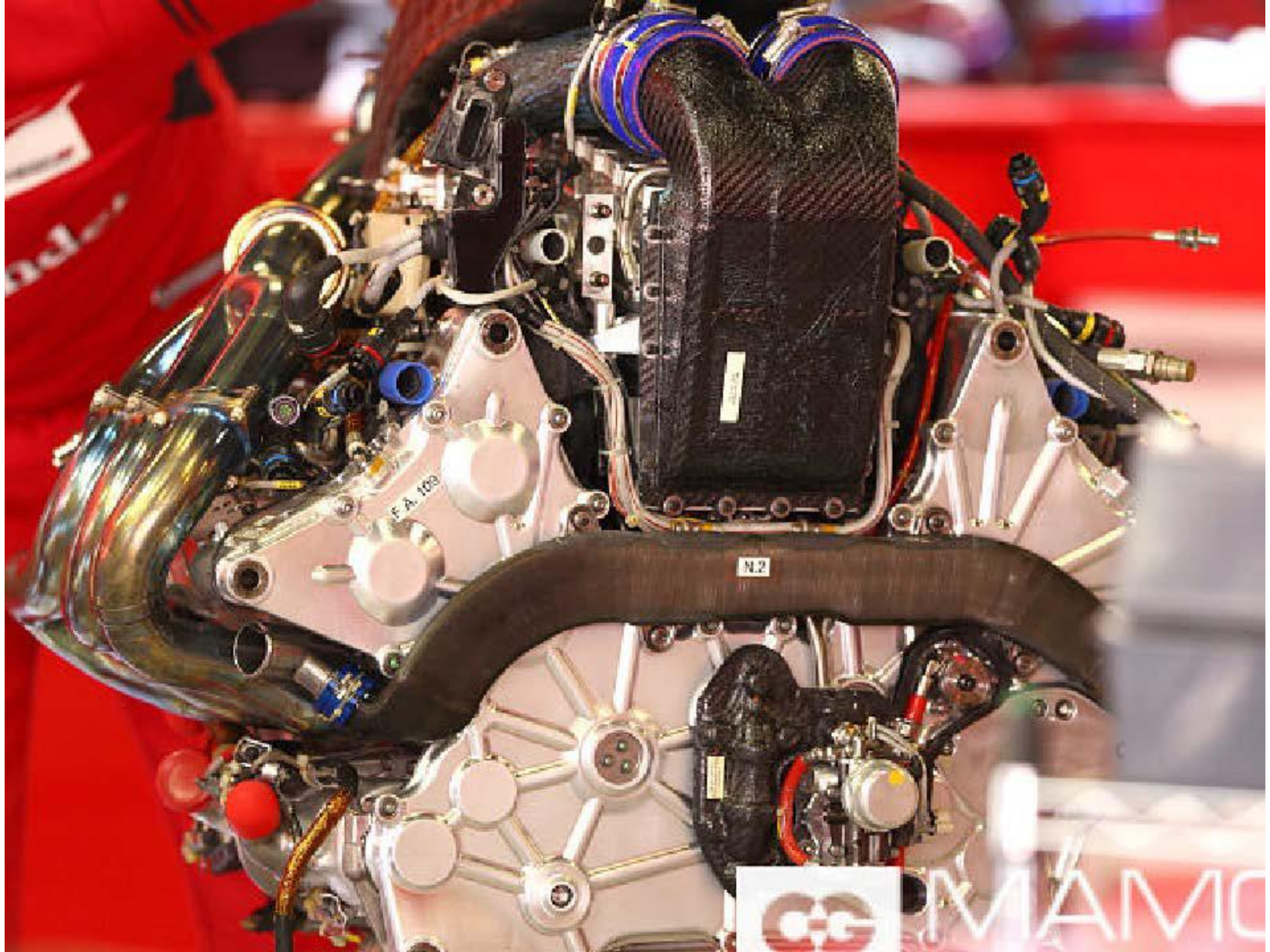
Kühlung

Verbrennungsmotor
- **Wasser**
- **Öl 2 Kreisläufe**
- **Ladeluft**

- **MGU-H**
- **MGU-K**
- **ES Batterie**
- **MGU Leistungselektronik**

- **Getriebe**
- **Hydrauliköl**


#KeepFightingMichael


F.A. 109
N.2
C-G
MAMO