

## Reversible Variable Transmission spec RVT310

in design phase

### **AUTOMATIC VARIABLE TRANSMISSION: FEATURES**

Compact transmission offering variable ratios down to zero and in reverse

Very high overdrive ratios for optimal engine efficiency and for low engine speed with less engine noise

Unlimited creeper speed and powerful launches without risk of overheating

Fast & accurate control of output speed or speed ratio by electronic control unit

Control unit manages continuously optimal engine & driveline efficiency

High overall transmission efficiency, thanks to absence of clutches and torque converter

No torque or efficiency dip during ratio variation

Unnoticeable delay on request for ratio change

Very few components, robust construction

Nearly silent operation

Input and output shafts are in line

With forward driving selected, output rotates in opposite direction rel. to input (for same direction: option)

Suitable for engine start-stop functionality

Hydraulic pumps driven by separate motors for extremely low power consumption

Braking energy recoverable

Fits to SAE 1 engine bell housing.

Output flange ISO 8667 – T180 or customized

### **TECHNICAL SPECIFICATIONS**

Model name	RVT310
Design application	Driving city and intercity buses, construction trucks Heavy material handling, airplane tow tractors
Transmission length	707 mm (bell housing to output flange)
Transmission outer diameter	552 (SAE 1 flange) – 522 mm
Transmission height bottom to center	315 mm
Transmission weight	277 kg (dry)
Highest speed ratio in forward	2.600 (torque ratio 0.385)
Highest speed ratio in reverse	0.200 (torque ratio 5.000)
Lowest speed ratio	0.000
Max input torque	1700 Nm
Max input speed	2000 - 2600 RPM
Max output torque	3800 Nm
Max output speed	3700 RPM (application dependent)
Max power	300 kW (application dependent)
Best efficiency excl. / incl. hydraulic pump	94.9 % excl.; 94.8 % incl.
SORT 3 average efficiency excl. / incl. hydr. pump	93.6 % excl.; 93.5 % incl.
Reaction time on ratio change request	80 ms
Typical inaccuracy on dynamic ratio request	0.15 % = 1.5 RPM output error on 1000 RPM input
Typical inaccuracy on static ratio request	0.00 to 0.05 %

Design life driving 30 ton city bus SORT 1, 2, 3 cycles 25 000 hours or 700 000 km

### **OPTIONS**

Gearbox mountable on transmission output for driving the output in same direction as input when forward driving is selected.

Output flange lateral offset	100 mm
Length increase by mounting gearbox	151 mm
Weight increase by gearbox	14 kg

Torsional damper adaptable to engine characteristics and to flywheel dimensions.

### **INSTALLATION**

Hydraulic pumps separately from transmission (electric driven, offering engine start – stop option)  
Separate oil-air coolers offering installation flexibility

