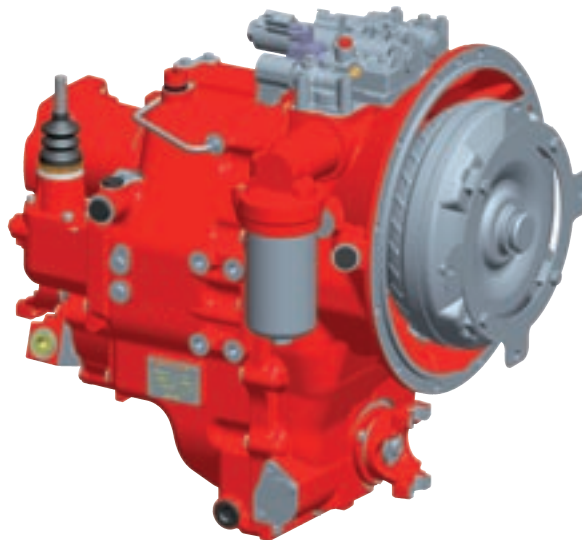


Torque Converter Transmissions

Synchro Shuttle

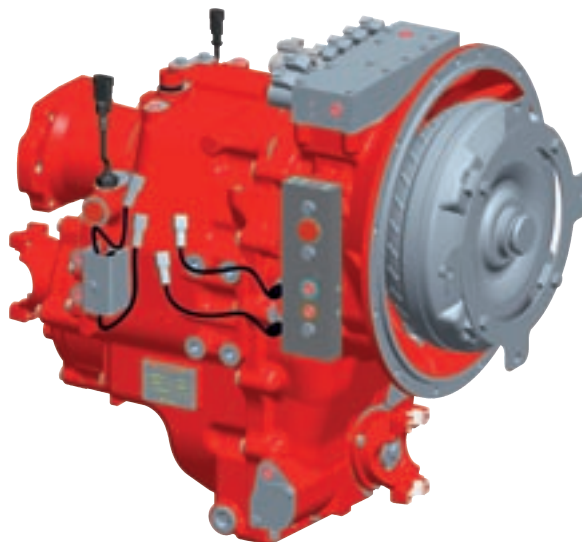
MAIN TECHNICAL DATA	TLB1 2WD					TLB1 4WD				
Power Rating	82 kW @ 2,200 rpm				82 kW @ 2,200 rpm					
Max input Torque	750 Nm				750 Nm					
Max input speed	2,400 rpm				2,400 rpm					
Internal Pump Type	Gear				Gear					
Engine Flywheel Interface	SAE 3				SAE 3					
Output Flange Type	Yoke 1410				Yoke 1410					
2WD output drop from Engine	180 mm				180 mm					
4WD output drop from Engine	-				323 mm					
Vehicle Pump Interface	SAE C				SAE C					
Torque Converter Size	W300				W300					
Speed Gear	4 Fwd + 4 Rev				4 Fwd + 4 Rev					
Fwd/Rev Ratios Option	1:1 / 1:0.829				1:1 / 1:0.829					
Fwd Speed Gear Ratios	1 st	2 nd	3 rd	4 th	1 st	2 nd	3 rd	4 th		
	5.603:1	3.481:1	1.585:1	0.793:1	5.603:1	3.481:1	1.585:1	0.793:1		
MFD Ratio Options	-				0.8:1 / 0.818:1 / 0.895:1					
Electronic Control	No				No					
Reverser	Power Reverse				Power Reverse					
Gear Shifting	Synchro Shuttle				Synchro Shuttle					
MFD Connection Options	-				SAHR Dog Clutch / SAHR Collar Shift					
Parking Brake Options	None / SAHR Wet Discs / Manual Wet Discs				None / SAHR Wet Discs / Manual Wet Discs					
Spin-On Oil Filter Options	Horizontal / Vertical / Remote				Horizontal / Vertical / Remote					
Electric System Voltage	12V				12V					
Differential Lock Solenoid	On Control Valve Assy				On Control Valve Assy					
Power Brake in/out Ports	15 bar nom.				15 bar nom.					
Speed Sensor	Available				Available					
Temperature Sensor	Available				Available					
Pressure Sensor	Available				Available					
Electrical Harness	N/A				N/A					



Torque Converter Transmissions

Power Synchro

MAIN TECHNICAL DATA	TLB1 SPS	TLB1 SPS Coaxial
Power Rating	82 kW @ 2,200 rpm	82 kW @ 2,200 rpm
Max input Torque	750 Nm	750 Nm
Max input speed	2,400 rpm	2,400 rpm
Internal Pump Type	Gear	Gear
Engine Flywheel Interface	SAE 3	SAE 3
Output Flange Type	Yoke 1410	Yoke 1410
2WD output drop from Engine	180 mm	180 mm
4WD output drop from Engine	323 mm	334 mm
Vehicle Pump Interface	SAE C	SAE C
Torque Converter Size	W300	W300
Speed Gear	4 Fwd + 4 Rev	4 Fwd + 4 Rev
Fwd/Rev Ratios Option	1:1 / 1:0.829	1:1 / 1:0.829
FWD Speed Gear Ratios	1 st 2 nd 3 rd 4 th	1 st 2 nd 3 rd 4 th
	5.603:1 3.481:1 1.585:1 0.793:1	5.603:1 3.481:1 1.585:1 0.793:1
MFD Ratio Options	0.8:1 / 0.818:1 / 0.895:1	1:1
Electronic Control	Yes	Yes
Reverser	Power Reverse	Power Reverse
Gear Shifting	Servo Power Synchro	Servo Power Synchro
MFD Connection Options	SAHR Dog Clutch / SAHR Collar Shift SAHR Wet Clutch	Permanent / SAHR Dog Clutch SAHR Collar Shift / SAHR Wet Clutch
Parking Brake Options	None / SAHR Wet Discs / Manual Wet Discs	None / SAHR Wet Discs / Manual Wet Discs
Spin-On Oil Filter Options	Vertical / Remote	Vertical / Remote
Electric System Voltage	12V	12V
Differential Lock Solenoid	On Control Valve Assy	On Control Valve Assy
Power Brake in/out Ports	15 bar nom.	15 bar nom.
Speed Sensor	Yes	Yes
Temperature Sensor	Yes	Yes
Pressure Sensor	Yes	Yes
Electrical Harness	Available	Available



Torque Converter Transmissions

Power Shift

MAIN TECHNICAL DATA	TLB2	TLB2 Coaxial
Power Rating	82 kW @ 2,200 rpm	82 kW @ 2,200 rpm
Max input Torque	750 Nm	750 Nm
Max input speed	2,400 rpm	2,400 rpm
Internal Pump Type	Gear	Gear
Engine Flywheel Interface	SAE 3	SAE 3
Output Flange Type	Yoke 1410	Yoke 1410
2WD output drop from Engine	188 mm	188 mm
4WD output drop from Engine	350 mm	350 mm
Vehicle Pump Interface	SAE C	SAE C
Torque Converter Size	W300	W300
Speed Gear	4 Fwd + 4 Rev	4 Fwd + 4 Rev
Fwd/Rev Ratios Option	1:1 / 1:0.829	1:1 / 1:0.829
FWD Speed Gear Ratios	1 st 2 nd 3 rd 4 th	1 st 2 nd 3 rd 4 th
	5.533:1 3.359:1 1.533:1 0.811:1	4.426:1 2.687:1 1.226:1 0.649:1
MFD Ratio Options	0.804:1	1:1
Electronic Control	Yes	Yes
Reverser	Power Reverse	Power Reverse
Gear Shifting	Power Shift	Power Shift
MFD Connection Options	SAHR Wet Clutch	Permanent / SAHR Wet Clutch
Parking Brake Options	None / SAHR Wet Discs / Manual Wet Discs	None / SAHR Wet Discs / Manual Wet Discs
Spin-On Oil Filter Options	Horizontal / Vertical / Remote	Horizontal / Vertical / Remote
Electric System Voltage	12V	12V
Differential Lock Solenoid	On Control Valve Assy	On Control Valve Assy
Power Brake in/out Ports	15 bar nom.	15 bar nom.
Speed Sensor	Yes	Yes
Temperature Sensor	Yes	Yes
Pressure Sensor	Yes	Yes
Electrical Harness	Available	Available



Electronic Control Unit

TRAX

Transmission Advanced Control System

Transmission management mode	Semiautomatic: management by driver Automatic: full automatized gearshift
Vehicle responsiveness customization	Smooth or direct clutch modulation Configurable software by customers needs
Prevention autodiagnostic system	Alarm / Error signal for excessive working parametres and wrong inputs / Safety Management SIL1/ISO13849 Perf. level C
Auxiliary functions	Differential lock and steering sensor control Data interchange with electronic dashboard platform, CAN J1939, Serial line diagnostic and servicing

General

Operating Temperature	- 40 / + 85 °C
Storage Temperature	- 40 / + 85 °C
Protection Rating	IP 67

Electrical

Nominal Supply Voltage	12 Vdc
Analog Voltage Input Range	0 / 5 Vdc
Rated Digital Output Current	2 A
Rated PWM Output Current	2 A
Rated PWM Output Frequency	4 kHz
Superimposed Dither Frequency	SW-adjustable
Superimposed Dither Amplitude	SW-adjustable
Serial Interface Communication	RS232, asynchronous, one CAN interface according to SAE J1939 / ISO 11783 / ISO 11898

Housing

Electrical Connections	56 pins board-mounted
Housing Material	High temperature nylon (Black)
Weight	0.25 Kg (for reference only)