

11/2022



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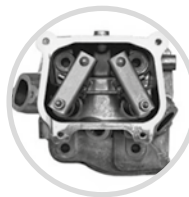


HORIZONTAL ENGINES



**EUROPEAN STAGE 5
EXHAUST EMISSIONS
COMPLIANT**

HAPPINESS comes from **THE CREATION**



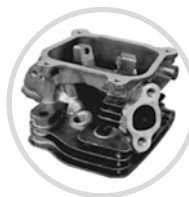
New structured rocker arm for higher stability and longer working life.



Lock-structural valve with longer working life.



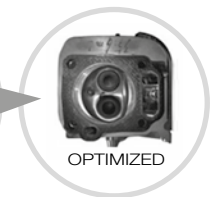
Efficiency of air intake, exhaust and power output improved with 25 degrees valve angle.



Improved head sink and air flow with higher power and longer working life.



NO OPTIMIZE



OPTIMIZED

Modified combustion chamber for full combustion, power improving and lower fuel consumption.



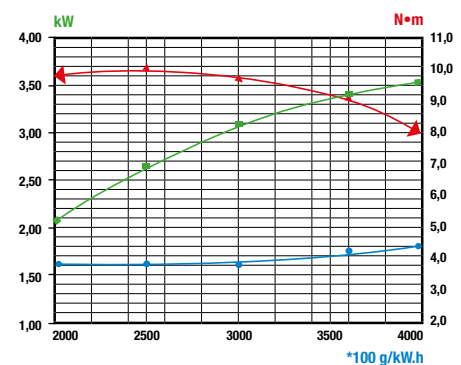
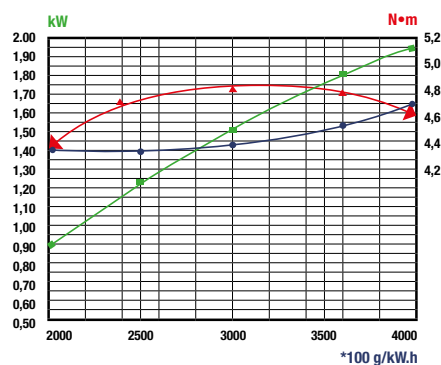
R80-V



R180



	R80-V	R180
Engine type	Single cylinder, 4-Stroke (OHV)	Single cylinder, 4-Stroke (OHV)
Bore x Stroke	52 x 37 mm	65 x 54 mm
Displacement	78.5 cc	179 cc
Compression ratio	9.0 : 1	9.0 : 1
Net power	1.4 kW / 3600 rpm	4.2 kW / 3600 rpm
Net torque	3.6 N.m / 2500 rpm	11 N.m / 2500 rpm
PTO shaft rotation	Counterclockwise (15 mm metric, with clutch reduction 1:2 e cylindrical 20 mm)	Counterclockwise (SAE 3/4 inch, taper Ø23, reduction camshaft 1/2 with clutch reduction 1:2 e cylindrical 20 mm)
Ignition system	Transistorized magneto ignition	Transistorized magneto ignition
Starting system	Recoil / Electric starter	Recoil / Electric starter
Carburetor	Flat suction valve carburetor	Flat suction valve carburetor
Lubrication system	Forced splash	Forced splash
Governor system	Centrifugal mechanical	Centrifugal mechanical
Air cleaner	Dual elements (foam)	Dual elements (paper or foam)
Oil capacity	0.35 L	0.55 L
Fuel tank capacity	1.8 L	3.6 L
Dimensions (L x W x H)	310 x 290 x 310 mm	390 x 320 x 345 mm
Net weight	10 kg	16 kg
Fuel consumption	≤ 450 g/kW • h	≤ 395 g/kW • h



HORIZONTAL ENGINES

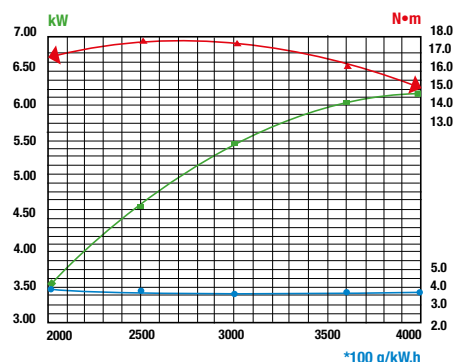
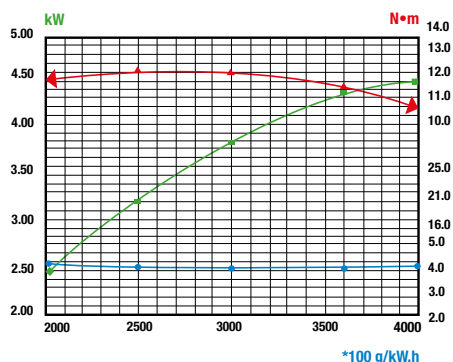
R210



R300



	R210	R300
Engine type	Single cylinder, 4-Stroke (OHV)	Single cylinder, 4-Stroke (OHV)
Bore x Stroke	70 x 55 mm	80 x 60 mm
Displacement	212 cc	301 cc
Compression ratio	9.0 : 1	8.5 : 1
Net power	4.4 kW / 3600 rpm	6.0 kW / 3600 rpm
Net torque	12 N.m / 2500 rpm	18 N.m / 2500 rpm
PTO shaft rotation	Counterclockwise (SAE 3/4 inch, taper Ø23, reduction camshaft 1/2 with clutch reduction 1:2 e cylindrical 20 mm)	Counterclockwise (SAE 1 inch, taper Ø23)
Ignition system	Transistorized magneto ignition	Transistorized magneto ignition
Starting system	Recoil / Electric starter	Recoil / Electric starter
Carburetor	Flat suction valve carburetor	Flat suction valve carburetor
Lubrication system	Forced splash	Forced splash
Governor system	Centrifugal mechanical	Centrifugal mechanical
Air cleaner	Dual elements (paper or foam)	Dual elements (paper or foam)
Oil capacity	0.55 L	1.1 L
Fuel tank capacity	3.6 L	5.4 L
Dimensions (L x W x H)	390 x 320 x 345 mm	420 x 395 x 430 mm
Net weight	16 kg	30.5 kg
Fuel consumption	≤ 395 g/kW • h	≤ 374 g/kW • h



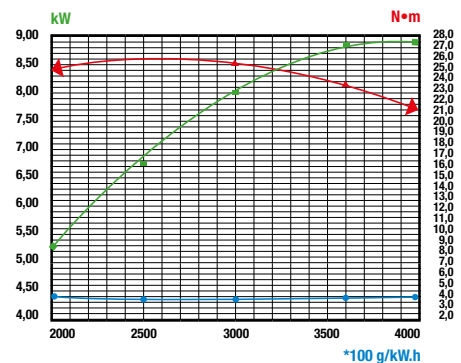
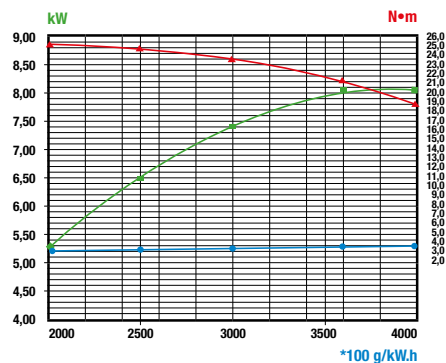
R390



R420



	R390	R420
Engine type	Single cylinder, 4-Stroke (OHV)	Single cylinder, 4-Stroke (OHV)
Bore x Stroke	88 x 64 mm	90 x 66 mm
Displacement	389 cc	420 cc
Compression ratio	8.5 : 1	8.5 : 1
Net power	7.8 kW / 3600 rpm	8.8 kW / 3600 rpm
Net torque	25 N.m / 2500 rpm	26.5 N.m / 2500 rpm
PTO shaft rotation	Counterclockwise (SAE 1 inch, taper Ø23)	Counterclockwise (SAE 1 inch, taper Ø23)
Ignition system	Transistorized magneto ignition	Transistorized magneto ignition
Starting system	Recoil / Electric starter	Recoil / Electric starter
Carburetor	Flat suction valve carburetor	Flat suction valve carburetor
Lubrication system	Forced splash	Forced splash
Governor system	Centrifugal mechanical	Centrifugal mechanical
Air cleaner	Dual elements (paper or foam)	Dual elements (paper or foam)
Oil capacity	1.1 L	1.1 L
Fuel tank capacity	6.5 L	6.5 L
Dimensions (L x W x H)	465 x 415 x 440 mm	465 x 415 x 440 mm
Net weight	30.5 kg	31 kg
Fuel consumption	≤ 374 g/kW • h	≤ 374 g/kW • h



HORIZONTAL ENGINES

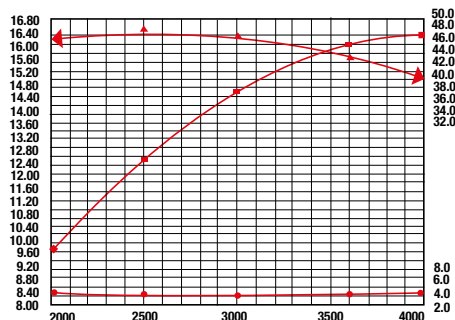
R670D



V-TWIN CYLINDER ENGINES

R670D

Engine type	V-Twin cylinder, 4-Stroke (OHV)
Bore x Stroke	78 x 70 mm
Displacement	670 cc
Compression ratio	8.1 : 1
Net power	15.5 kW / 3600 rpm
Net torque	45 N.m / 2500 rpm
PTO shaft rotation	Counterclockwise (SAE 1 inch)
Ignition system	Transistorized magneto ignition
Starting system	Electric starter
Carburetor	Flat suction valve carburetor
Lubrication system	Pressure / Forced splash
Governor system	Centrifugal mechanical
Air cleaner	Dual elements (paper or foam)
Oil capacity	1.5 L
Fuel tank capacity	---
Dimensions (L x W x H)	457 x 351 x 460 mm
Net weight	45 kg
Fuel consumption	≤ 374 g/kW • h



R740D



R999D



ELECTRIC STARTER



ELECTRIC STARTER

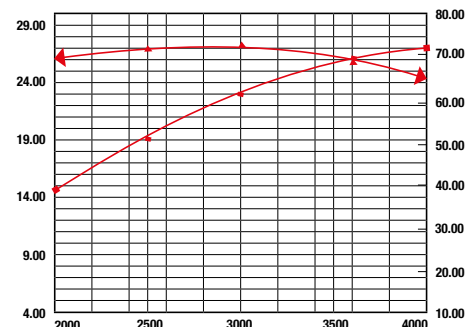
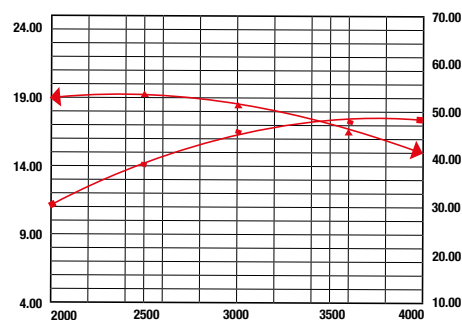
V-TWIN CYLINDER ENGINES

V-TWIN CYLINDER ENGINES

R740D

R999D

Engine type	V-Twin cylinder, 4-Stroke (OHV)	V-Twin cylinder, 4-Stroke (OHV)
Bore x Stroke	82 x 70 mm	90 x 78,5 mm
Displacement	739 cc	999 cc
Compression ratio	8.5 : 1	8.7 : 1
Net power	16.8 kW / 3600 rpm	25 kW / 3600 rpm
Net torque	47 N.m / 2500 rpm	68 N.m / 2500 rpm
PTO shaft rotation	Counterclockwise (SAE 1 inch)	Counterclockwise (SAE 36.5 mm)
Ignition system	Transistorized magneto ignition	Transistorized magneto ignition
Starting system	Electric starter	Electric starter
Carburetor	Flat suction valve carburetor	Flat suction valve carburetor
Lubrication system	Pressure / Forced splash	Pressure / Forced splash
Governor system	adjustable speed, mechanical governor, fixed speed, eletronical governor	adjustable speed, eletronical governor
Air cleaner	Dual elements (paper or foam)	Dual elements (paper or foam)
Oil capacity	1.6 L	2.4 L
Fuel tank capacity	No tank	No tank
Dimensions (L x W x H)	550 x 460 x 345 mm	515 x 481 x 558 mm
Net weight	45 kg	50 kg
Fuel consumption	≤ 370/3600 r/min	≤ 370/3600 r/min



SPECIAL SHAFT ENGINES



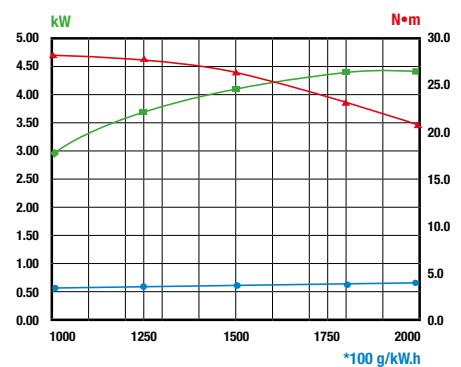
R210C



CHAIN DOWN ENGINES
CLUTCH ENGINES

R210C

Engine type	Single cylinder, 4-Stroke (OHV), 1/2 geared-down
Bore x Stroke	70 x 55 mm
Displacement	212 cc
Compression ratio	9.0 : 1
Net power	4.4 kW / 1800 rpm
Net torque	24 N.m / 1250 rpm
PTO shaft rotation	Counterclockwise (horizontal shaft output)
Ignition system	Transistorized magneto ignition
Starting system	---
Carburetor	Flat suction valve carburetor
Lubrication system	Forced splash
Governor system	Centrifugal mechanical
Air cleaner	Dual elements (paper or foam)
Oil capacity	0.55 L
Fuel tank capacity	3.6 L
Dimensions (L x W x H)	390 x 320 x 345 mm
Net weight	18 kg
Fuel consumption	≤ 395 g/kW • h



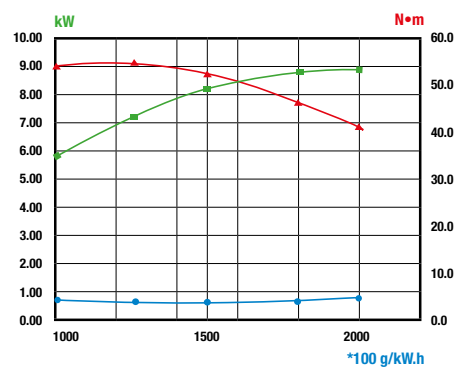
R390G



GEAR DOWN ENGINES

R390G

Engine type	Single cylinder, 4-Stroke (OHV), 1/2 geared-down
Bore x Stroke	88 x 64 mm
Displacement	389 cc
Compression ratio	---
Net power	7.8 kW / 1800 rpm
Net torque	50 N.m / 1250 rpm
PTO shaft rotation	---
Ignition system	---
Starting system	Recoil / Electric starter
Carburetor	---
Lubrication system	---
Governor system	---
Air cleaner	---
Oil capacity	1.1 L
Fuel tank capacity	6.5 L
Dimensions (L x W x H)	456 x 415 x 440 mm
Net weight	35 kg
Fuel consumption	≤ 374 g/kW • h





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